Social Media's Influence on Political Participation: Insights from a Systematic Review and Meta-Analysis in Indonesian Psychology

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Abstract.   This systematic review and meta-analysis examine the impact of social media on political participation. It explores whether social media functions merely as an echo chamber for pre-existing beliefs or as a dynamic tool for political engagement. Sixteen studies, involving 33,257 participants, were selected and synthesized after applying inclusion criteria and conducting multiple filtering stages. The findings reveal that, while social media can enhance political participation, its effectiveness is highly context-dependent, and its overall impact is moderate. This suggests that social media is not transformative but rather supports existing political behaviors. For Indonesian psychological research, these insights highlight the importance of considering local socio-political contexts when analyzing social media's role. Future studies should investigate the socio-cultural moderators affecting this relationship in Indonesia to inform the development of more effective political communication strategies through social media. This study contributes to the discourse on digital platforms' role in political dynamics, particularly in diverse democratic settings like Indonesia.

Keywords: digital influence; Indonesia; meta-analysis; political participation; social media

The utilization of social media within political contexts has transformed how the public engages with politicians, political parties, and public policies (Kalsnes et al., 2017; Momeni, 2017). Research by Marquart et al. (2020) underscores how following politicians on social media can enhance campaign engagement among youth, catalyzing their political participation. Boulianne (2015) found a positive relationship between social media use and enhanced political participation, with 80% of the study's coefficients indicating a significant influence. However, these results still raise questions regarding causality and the actual transformative impact, given that many panel studies do not find a significant relationship between the two factors.

Social media has likewise provided a new arena for political expression and public discourse. Jost et al. (2018) state that platforms like Facebook and Twitter serve as information channels and facilitate the dissemination of emotional and motivational content that can influence protest activities. This study highlights the importance of the structure of online social networks, which

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varies by political ideology, in exposing information and predicting the success of protest movements. Conversely, Bakshy et al. (2015) explain that social media algorithms do not significantly impact the ideological balance of political news consumption on platforms like Facebook.

The presence of social media also plays a significant role in shaping political agendas and public opinion. Gilardi et al. (2022) discovered that social media is crucial in setting the political agenda, particularly on environmental issues. Their study indicates that political parties' social media agendas can more accurately predict traditional media agendas than vice versa, suggesting that social media is not just a communication channel but a strategic tool for political parties to influence public opinion and policy.

The effectiveness of social media in enhancing political participation is also influenced by specific factors such as user engagement and motivation. Zhu et al. (2019) demonstrate that the creative use of social media can indirectly predict political participation through online political expression. The platform's impact depends on how users express their political views. Similarly, Pandey et al. (2020) highlight that social media facilitates formal political participation and introduces new forms of engagement, such ac online activism, which are often unattainable in offline contexts. By appliying supervised text classification to analyze over 15,000 tweets, their research found activism to be the most prominent form of political participation on Twitter, followed by formal and consumer participation. These findings suggest that social media has reshaped the concept and practice of political participation in modern society.

In more specific environments, like China, the use of social media can be influenced by specific social and political contexts. Chen and Chan (2017) showed that motivations for its use, such as the need for information or communication, affect online online and offline political participation. This implies that social media's enhancement of participation in politics may vary depending on a country's social and political circumstances. Based on these and other studies, it can be concluded that social media plays a significant role in shaping modern society's political participation. However, its effectiveness depends on multiple factors, such as motivation, social context, and how the platform is utilized by individuals and political organizations. Therefore, further research is needed to gain a deeper understanding of the relationship between social media and political participation in the digital age.

This systematic review and meta-analysis was conducted to address several gaps in previous research. Firstly, many studies focus on specific national contexts or particular political events, which can limit the generalizability of their findings to a broader, global context. For instance, Zhu et al. (2019) demonstrated that the creative use of social media facilitated political participation in Hong Kong. While this finding aligns with patterns observed in other democratic settings, such as those in Western countries, it remains unclear whether similar effects occur in nations with distinct political cultures or varying degrees of media freedom. Similarly, studies scholars like Valenzuela (2013) found that social media use positively correlates with civic engagement in Latin American countries. In contrast yet, studies such as those by Tufekci (2019) argued that while social media can amplify political participation, it may also lead to "slacktivism," where online engagement does not translate

into offline action. This contrast highlights the need for a meta-analytical approach to synthesize findings across diverse political contexts and provide a more comprehensive understanding of social media's relationship with political participation.

Secondly, the methodologies used by previous studies-such as cross-sectional surveys, case studies, or big data analysis-vary, potentially contributing to inconsistent findings. For example, while Gilardi et al. (2022) found that social media can shape the political agendas, especially regarding environmental issues, other studies (Adjei, 2017; Kruikemeier et al., 2016) suggest that its effects may depend on the type of political issue or the specific social media platforms used. These variations imply that methodological differences might influence the observed outcomes, underscoring the importance of synthesizing findings across studies to identify consistent patterns. To address this issue, the current meta-analysis seeks to provide a more comprehensive and reliable understanding of the of social media's in shaping national discourse and mobilizing citizens.

Thirdly, there needs to be more research attempting to integrate various essential variables such as social capital, self-efficacy, and political knowledge into investigations of the relationship between social media and political participation. These variables are crucial because they mediate or moderate how individuals engage politically through social media. Social capital fosters trust and collective action, self-efficacy empowers individuals to believe in their ability to influence political outcomes, and political knowledge enhances the quality of engagement by reducing susceptibility to misinformation (Chung & Shim, 2020). A study by Kim et al. (2020) tried to fill this gap by applying Bandura's social cognitive theory to explain how social capital and political knowledge can mediate the effect of social media usage on political participation. However, further analysis is needed to validate this model in various social and political contexts.

The urgency of conducting this meta-analysis lies in the need to more clearly and comprehensively understand the role of social media in shaping political participation in the digital era. Although numerous studies have been conducted to explore this relationship, the results obtained are often varied and sometimes contradictory. Moreover, this finding is expected to provide a reference for future research in Indonesia by enabling adoption of more inclusive and effective methods of political communication based on the characteristics of Indonesian society. The experience from other countries can offer valuable insights into developing communication policies and strategies capable of maximizing social media's potential for fostering political participation, while addressing possible challenges such as political polarization, while also addressing possible challenges such as political polarization and misinformation. In this context, the review question guiding the meta-analysis is: What is the influence between social media usage and political participation behaviors, and how can findings from international studies inform the development of inclusive and effective political communication strategies in Indonesia?

Methods

This study employs a systematic review and meta-analysis design, adhering to the PRISMA guidelines standard (Figure 1). A systematic review and meta-analysis is a thorough and rigorous method for synthesizing the available research evidence on a specific topic or question. By systematically identifying, evaluating, and summarizing all relevant primary studies, this method can provide a more reliable and unbiased estimate of the overall effect or relationship being investigated (Gopalakrishnan & Ganeshkumar, 2013).

Figure 1

PRISMA Flow Diagram
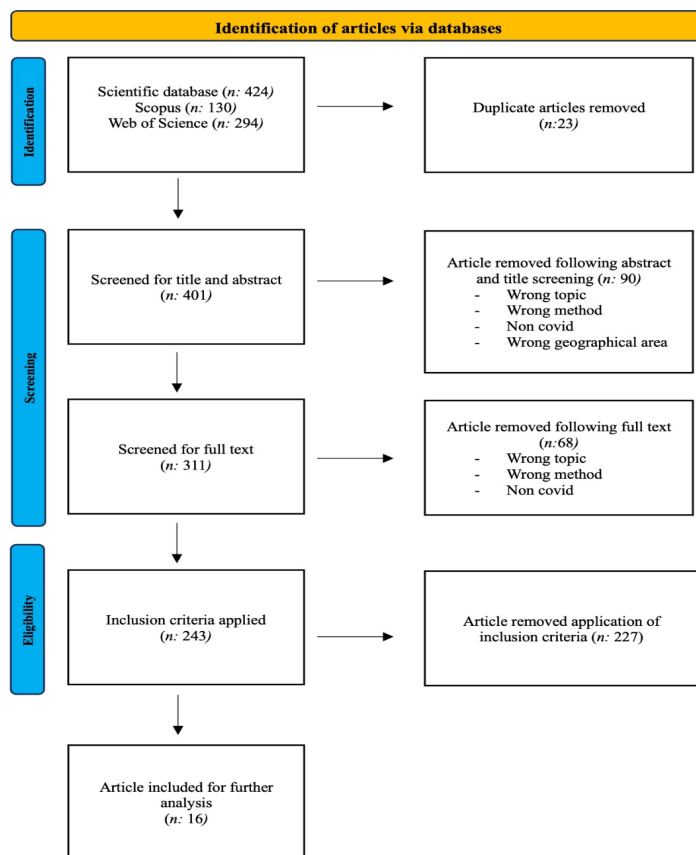
Literature Search

Literature searches were conducted from September 5 to September 20, 2024. Data was collected using two online databases: Scopus and Web of Science. These databases were combined to ensure comprehensive literature coverage while maintaining the quality of the included studies. Scopus

provides broader access to psychology journals that Web of Science may not cover, while Web of Science offers quality assurance for the selected articles (Harzing & Alakangas, 2016; Singh et al., 2021). Together, these databases balance extensive coverage and high-quality literature, making them highly suitable for research in psychology and the social sciences. Search query used in this study is outlined in Table 1.

Table 1

Search Queries for Scopus and Web of Science Databases

Database	Search Query
Scopus	(TITLE-ABS-KEY ("social media" OR "digital platforms" OR "online platforms" OR "Facebook" OR "Instagram" OR "Twitter") AND TITLE-ABS-KEY ("political participation" OR "civic engagement" OR "voting behavior" OR "political involvement" OR "political activism" OR "online activism")) AND (LIMIT-TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE , "English"))
Web of Science	TS = ("social media" OR "digital platforms" OR "online platforms" OR "Facebook" OR "Instagram" OR "Twitter") AND TS=("political participation" OR "civic engagement" OR "voting behavior" OR "political involvement" OR "political activism" OR "online activism") and 2024 or 2023 (Publication Years) and Article (Document Types) and Article (Document Types) and English (Languages)

The initial search yielded 4,501 studies. However, limiting the year range to 2023-2024 reduced the number to 424. This time frame was chosen for several reasons. First, it captures the most recent developments in the field, reflecting shifts in research focus and methodology following the global COVID-19 pandemic. The pandemic significantly influenced social and psychological dynamics, particularly in political participation and social media use, creating a need to understand post-pandemic patterns. Second, focusing on recent years addresses research gaps related to the integration of rapidly evolving digital platforms and their political impacts, which are more prominently explored in current literature. Lastly, this approach ensures the inclusion of studies conducted within contemporary technological and socio-political contexts, enhancing the relevance of the meta-analysis.

The PRISMA diagram (Figure 1) illustrates the systematic process of identifying, screening, and selecting studies for inclusion in a review. Initially, 424 articles were identified from scientific databases (Scopus and Web of Science), and after removing 23 duplicates, 401 unique articles were screened by title and abstract, excluding 90 for reasons such as wrong topic, method, geographical area, or lack of relevance to COVID-19. The remaining 311 articles underwent full-text screening, where 68 more were excluded for similar reasons. Subsequently, inclusion criteria were applied to the remaining 243 articles, resulting in the exclusion of 227 studies. Ultimately, 16 articles met all the criteria and were included for further analysis, demonstrating a rigorous and transparent selection process.

As shown in Figure 1, after applying the inclusion criteria (Table 2), 16 studies were selected for further analysis (Table 3). The inclusion criteria for this review required studies to report statistical effect sizes or Pearson correlation values representing the relationship between social media usage

and forms of political participation behavior. Selected studies needed to focus on social media or digital platforms, such as Facebook, Instagram, and Twitter, and measure various types of political participation, including civic engagement, voting behavior, political involvement, political activism, or online activism. Additionally, the studies had to employ quantitative analysis to measure the correlation between the independent variable (social media usage) and the dependent variable (political participation) to ensure standardized and reliable results. Studies that did not meet these criteria, such as opinion-based articles, non-empirical research, or those providing only qualitative descriptions, were excluded from the meta-analysis. Table 2. Inclusion criteria and justification

Table 2

Inclusion Criteria and Justification

Criteria	Decription
Statistical Effect Size or Pearson Correlation Reported	Ensures quantitative and standardized analysis for consistent comparison and synthesis (Harzing & Alakangas, 2016). Studies using qualitative data, opinion-based methods, or non-empirical approaches will be excluded.
Focus on Social Media or Digital Platforms	Examines key platforms (e.g., Facebook, Instagram, Twitter) relevant to digital political engagement. Studies not specifying social media or focusing on unrelated platforms will be excluded.
Covers Political Participation Behavior	Includes key aspects like civic engagement, voting behavior, political activism, and online activism, aligning with the research focus. Studies unrelated to political participation (e.g., general digital usage) will be excluded.
Publication Years: 2023-2024	Captures the most recent research addressing post-COVID-19 changes and the rapidly evolving digital-political landscape (Singh et al., 2021). Articles published outside this range will be excluded.
Quantitative Analysis Only	Provides objective and reliable data necessary for meta-analysis. Studies without measurable effect sizes or lacking correlation data will be excluded.
Document Type: Scholarly Articles	Ensures high-quality, credible academic sources by including only peer-reviewed scholarly articles. Non-peer-reviewed works like editorials or commentaries will be excluded.
Language: English	Facilitates global comprehension and analysis while avoiding language bias (Harzing & Alakangas, 2016). Articles in other languages will be excluded.
Indexed in Scopus or Web of Science (WOS)	Balances extensive coverage with quality assurance by ensuring studies meet high academic standards. Works from other databases or non-indexed publications will be excluded.

Table 3

Selected Articles for Meta-Analysis

Study	N	r	Country	Platform	Political Participation
Harff and Schmuck (2024)	1,233	0.91	Germany	Instagram	Signing petitions

Table 3 (Continued)

Selected Articles for Meta-Analysis

Study	N	r	Country	Platform	Political Participation
Sindermann (2024)	1,235	0.53	Germany	Facebook, Instagram, X/Twitter	Fridays for Future (FFF) movement
Ahmed et al. (2024)	550	0.17	Singapore	Facebook, Twitter, Instagram, Telegram, WhatsApp	Signing or sharing online petitions
Ting et al. (2024)	338	0.402	Malaysia	Facebook, Twitter, TikTok, YouTube, dan Instagram,	Voicing political rights and participation in elections
Ting et al. (2024)	338	0.703	Malaysia	Facebook, Twitter, TikTok, YouTube, dan Instagram,	Political interest
Ahmed et al. (2024)	500	0.76	India	Facebook, WhatsApp, dan Instagram	Posting about political issues
Koiranen et al. (2024)	12,427	0.14	Finland	Social Media (non-specific)	Digital campaigns
Koiranen et al. (2024)	12,427	0.13	Finland	Social Media (non-specific)	Official political campaigns
Borrero and Borrero-Domínguez (2024)	209	0.07	Spain	Facebook	Sharing information and discussing politics
Yang et al. (2024)	700	0.28	China	Sina Weibo, Douban, WeChat dan QQ	Involvement in social actions: monetary donations, item donations
Sajid et al. (2024)	381	0.07	Pakistan	Facebook	Sharing political information
Saud et al. (2023)	394	0.206	Indonesia & Pakistan	Facebook	Receiving political information
Saud et al. (2023)	394	0.750	Indonesia & Pakistan	Facebook	Receiving political information
Egbunike (2023)	505	0.1	Nigeria	Twitter	Political discourse online
Wasike (2023)	813	0.51	United States	Social Media (non-specific)	Receiving political information

Table 3 (Continued)

Selected Articles for Meta-Analysis

Study	N	r	Country	Platform	Political Participation
Wasike (2023)	813	0.18	United States	Social Media (non-specific)	Receiving political information

Data Analysis

In this meta-analysis, both fixed-effect and random-effect models were employed to examine the relationships among variables from various collected studies. The analysis was conducted using R Studio with the 'meta' and 'metafor' packages, specifically developed to calculate meta-analytic effect sizes and confidence intervals (Viechtbauer & Cheung, 2010).

As part of the analysis, an equivalence test was performed to determine if the observed effects could be considered equivalent to zero, using a predefined equivalence threshold. Pearson correlation coefficients were used as the measure of effect in the meta-analysis. However, due to inconsistencies in the reporting of numerical results among the analyzed studies, the Pearson correlation coefficients were converted to Fisher z scores. This process was implemented to address potential variance instability, as Hafdahl (2009) described in his research on better Fisher estimators for random effects meta-analysis.

The Fisher z scores were calculated using the formula $z = 0, 5 » \ln \ln (\frac{1+r}{1-r})$ and the standard error of z (SEz) was calculated using the formula $Ez = \frac{1}{\sqrt{n-3}}$. Thus, the effect sizes used in this meta-analysis are expressed as Fisher z scores with 95% confidence intervals (Welz et al., 2022). Additionally, a sensitivity analysis using the leave-one-out method was conducted to evaluate the stability of the findings. It provided insights into the high level of heterogeneity among the studies, reflected in significant I^2 and tau^2 values. These values indicate that substantial variability in study outcomes is caused by outliers and intrinsic variation among all studies included in the analysis (Assink & Wibbelink, 2016).

The Use of AI-Generated Tools in the Writing Process

In composing this manuscript, the authors utilized AI-generated tools, such as ChatGPT (GPT-4o), specifically for assistance with translation and grammar correction. These tools ensure that translated texts are accurate and contextually appropriate while maintaining proper grammatical structure. By leveraging ChatGPT (GPT-4o), I can refine the linguistic quality of my work, allowing for clear and effective communication in multiple languages (OpenAI, 2024).
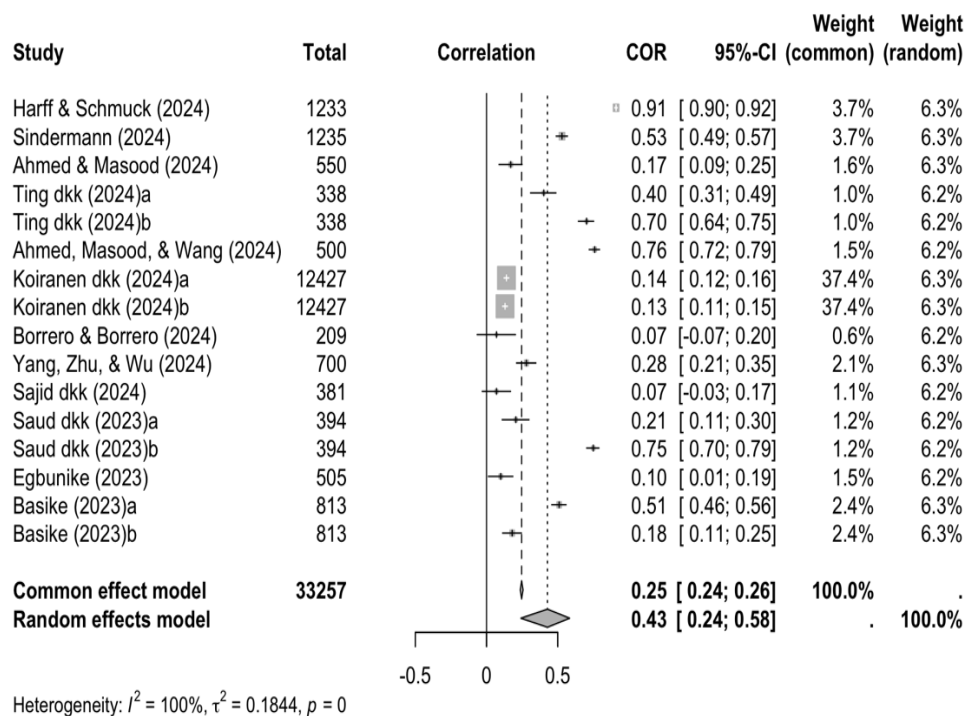
Results

Our meta-analysis findings (Figure 2) display a significant relationship between the variables examined in these studies. The meta-analytic effect size from the fixed-effect model shows a correlation of 0.2466

(95% CI: [0.2365; 0.2567]) with a *p*-value = 0, demonstrating statistically significant results. Meanwhile, the random-effect model presents a meta-analytic effect size of 0.4278 (95% CI: [0.2409; 0.5841]) with a *p*-value < 0.0001, also indicating statistically significant results. However, when conducting the equivalence test using strict equivalence boundaries of -0.2 and 0.2, the results show that the confidence interval for the meta-analytic effect size of both models does not fall within the predefined equivalence limits. This means that, although the results are statistically significant, the observed effects are not sufficiently small to be considered "equivalent" to zero. In other words, the effects found are still large enough to be considered meaningful both practically and theoretically.

Figure 2

Forest Plot

Study	Total	Correlation	COR	95%-CI	Weight (common)	Weight (random)
Harff & Schmuck (2024)	1233		0.91	[0.90; 0.92]	3.7%	6.3%
Sindermann (2024)	1235		0.53	[0.49; 0.57]	3.7%	6.3%
Ahmed & Masood (2024)	550		0.17	[0.09; 0.25]	1.6%	6.3%
Ting dkk (2024)a	338		0.40	[0.31; 0.49]	1.0%	6.2%
Ting dkk (2024)b	338		0.70	[0.64; 0.75]	1.0%	6.2%
Ahmed, Masood, & Wang (2024)	500		0.76	[0.72; 0.79]	1.5%	6.2%
Koiranen dkk (2024)a	12427		0.14	[0.12; 0.16]	37.4%	6.3%
Koiranen dkk (2024)b	12427		0.13	[0.11; 0.15]	37.4%	6.3%
Borrero & Borrero (2024)	209		0.07	[-0.07; 0.20]	0.6%	6.2%
Yang, Zhu, & Wu (2024)	700		0.28	[0.21; 0.35]	2.1%	6.3%
Sajid dkk (2024)	381		0.07	[-0.03; 0.17]	1.1%	6.2%
Saud dkk (2023)a	394		0.21	[0.11; 0.30]	1.2%	6.2%
Saud dkk (2023)b	394		0.75	[0.70; 0.79]	1.2%	6.2%
Egbunike (2023)	505		0.10	[0.01; 0.19]	1.5%	6.2%
Basike (2023)a	813		0.51	[0.46; 0.56]	2.4%	6.3%
Basike (2023)b	813		0.18	[0.11; 0.25]	2.4%	6.3%
Common effect model	**33257**		**0.25**	**[0.24; 0.26]**	**100.0%**	.
Random effects model			**0.43**	**[0.24; 0.58]**	.	**100.0%**

-0.5   0   0.5

Heterogeneity: I^2 = 100%, τ^2 = 0.1844, *p* = 0

Further sensitivity analysis shows that the heterogeneity among studies remains very high (I^2 ranges from 99.4% to 99.7%), even when one study is removed at a time (leave-one-out analysis). This implies that the high heterogeneity is not caused by any particular study, but reflects natural variation among all of them. Likewise, the tau^2 values remain high (ranging from 0.1756 to 0.1968) and do not change significantly when a single study is removed, affirming that the primary causes of heterogeneity may stem from fundamental differences in methodology, context, or respondent characteristics in each case. Therefore, although the meta-analysis results indicate a significant relationship, the high heterogeneity suggests that these conclusions should be interpreted cautiously, as the observed effects may vary depending on the specific context of each study. Further analyses, such as subgroup analysis or

meta-regression, need to be conducted to better understand the sources of heterogeneity and ensure the validity of the meta-analysis results.

Equivalence Tests

The findings of this meta-analysis reveal a significant relationship between the analyzed variables. Results using null hypothesis significance testing (NHST) show that the meta-analytic effect size is significant with a 95% confidence interval [0.246; 0.669]. However, a two-sided equivalence test (TOST) using narrow equivalence boundaries of -0.2 and 0.2 reveals that the observed effect size (0.457) does not fall within the predefined equivalence limits. The 90% confidence interval [0.289; 0.635] also exceeds the equivalence limits, indicating that although the results are statistically significant, the observed effect cannot be considered too small. This means that the effect size found cannot be regarded as equivalent to zero, thus the effect has significant practical or theoretical meaning.

This analysis is consistent with previous literature emphasizing the importance of using the TOST to determine whether observed effects are practically equivalent to zero. According to Lakens (2017), the TOST enables researchers to determine lower and upper bounds for the smallest effect size of interest (SESOI), which can be used to reject effects too small to be considered practically relevant (Lakens, 2017). Additionally, research by Linde et al. (2023) shows that the TOST approach is more reliable compared to other methods like HDI-ROPE and Bayes factor interval null for assessing equivalence, especially when the sample size is relatively small.

Figure 3

Equivalence Test Plot with Meta-Analytic Effect Size (Black Square)
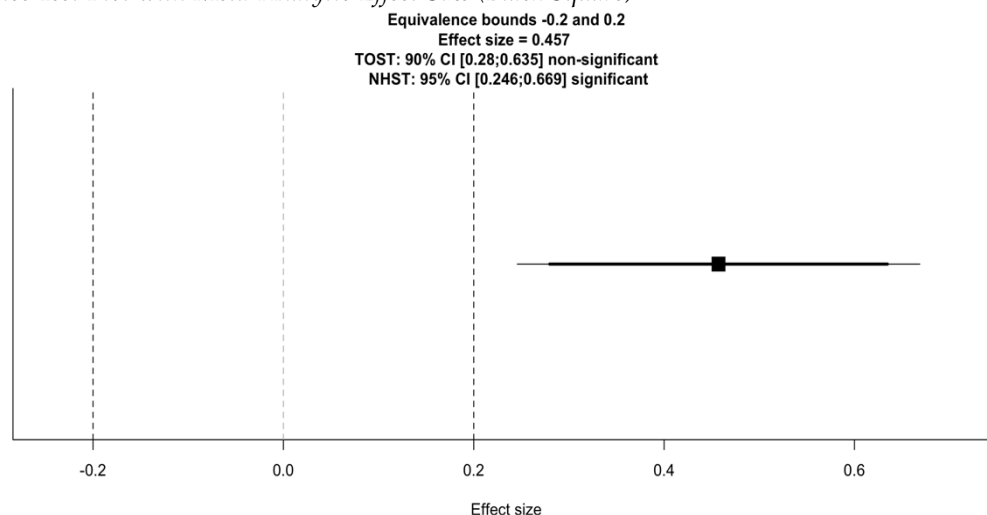
Sensitivity Analyses

We conducted a range of additional analyses to evaluate the robustness of our findings. These included adjustments for publication bias, adjustment for measurement error, and the identification of outliers.

Publication Bias

First, we evaluated whether the results of this meta-analysis could withstand potential publication bias, which is the tendency not to publish studies with non-significant findings. This tendency can cause the effect sizes obtained to be inflated. To detect and adjust for the possibility, we used various approaches such as the trim-and-fill method (Rust et al., 1990), Egger's test (Siegel et al., 2022), and the latest selection models. The analysis results show no consistent evidence of publication bias in this literature. Even after adjusting the effect sizes for potential publication bias, the influence of social media use on political participation remains significant, albeit moderately. This confirms that the relationships found in the studies analyzed are not substantially influenced by selective publication, thereby providing strong support for the validity of our results.

Adjustment for Measurement Error

In this meta-analysis, which involved a total of 16 primary studies, we observed that the reported effect sizes could be influenced by measurement errors in the dependent variables. To correct for these measurement errors, we applied the artifact distribution method as described by Hunter and Schmidt (2004), which involves adjusting the effect sizes based on the reliability of the measurement scales reported in each primary study.

After implementing this correction, our analysis under the random effects model (tau^2 estimator: REML) revealed substantial heterogeneity among the included studies (I^2 = 99.66%, H^2 = 292.55). The test for heterogeneity was highly significant (Q(df = 15) = 3214.1045, p < 0.0001), ilustrating considerable variability among the studies that could not be fully attributed to sampling error.

The adjusted results, accounting for measurement error, yielded an estimated overall effect size of 0.4572 with a standard error of 0.1079. The z-value for this effect size was 4.2378, with a *p*-value less than 0.0001, which is statistically significant. The confidence interval ranged from 0.2457 to 0.6687, indicating that even after accounting for measurement error, the effect size remains significant and shows that the variable of interest has a strong impact across the analyzed studies. This confirms the reliability of our meta-analytic conclusions, supporting the substantial effects observed across the primary studies included in our analysis.

Outlier Detection

Finally, we implemented a series of comprehensive diagnostic tests (Figure 4) to uncover whether our meta-analysis findings were influenced by studies with unusually large effect sizes (Viechtbauer & Cheung, 2010). The results from these diagnostics, displayed in eight different plots, show that there is no strong evidence of outliers significantly affecting the results of the meta-analysis. This is

Figure 4

Influence Diagnostics for Outlier Detection
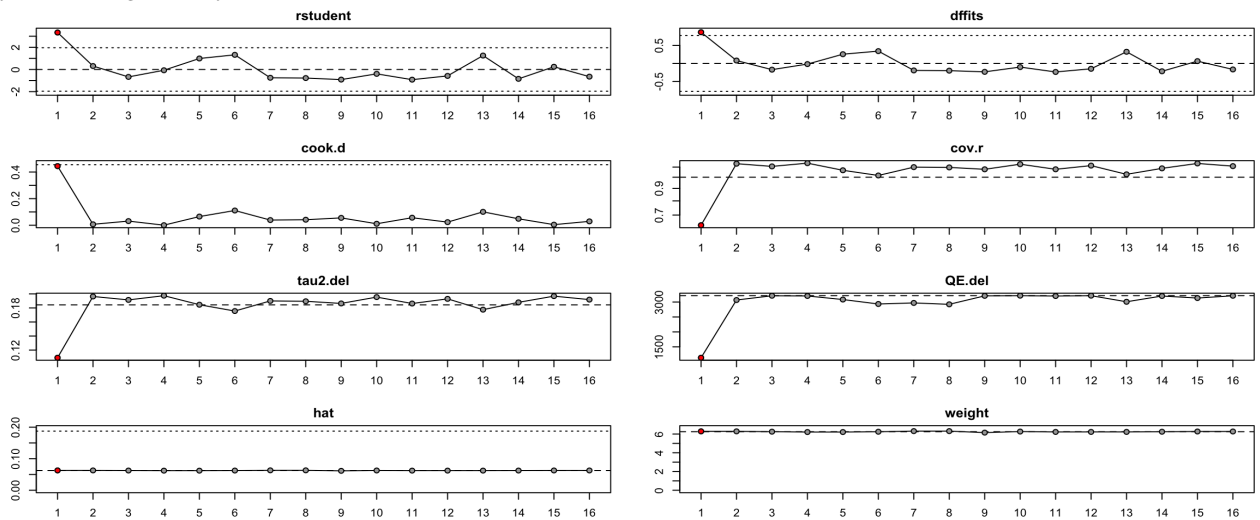
evident from the rstudent and dffits values, which are mostly within the normal range, and the low Cooks distance values, demonstrating that no single study has a large influence on the overall results. Additionally, the hat and weight graphs show that all studies have a relatively balanced contribution to the analysis model. Although there is some variation in the tauš and QE.del values when individual studies are removed, this variability does not result in a significant change in tauš values and does not affect the final conclusions. Thus, the results of these influence diagnostics affirm that the conclusions from our meta-analysis are not driven by outlier studies, but rather reflect a stable and reliable general trend.

Discussion

The results of this meta-analysis illustrate a significant relationship between social media use and political participation. Specifically, the more frequently an individual uses social media, the more likely they are to engage in political activities, such as discussing politics or following political campaigns. This outcome is evident from the sufficiently strong correlation values in both the fixed-effect and random-effect models. Further equivalence tests reinforce that the relationship is substantial and cannot be considered zero, demonstrating that the effect of social media on political participation is real and meaningful both theoretically and practically.

Although the results are significant, the degree of variance between the analyzed studies is very high, indicating that outcomes may vary depending on social context, research methodology, and respondent characteristics. In democratic societies with high internet penetration, social media may serve as a tool for open political discussions and mobilization, whereas in authoritarian regimes with strict censorship, fear of surveillance could limit political engagement, resulting in weaker correlations.

Methodological differences also contribute to this variance, as studies relying on self-reported surveys might overestimate the relationship due to response biases, while those using objective metrics, like post counts or shares, often report weaker but more precise findings. Individual characteristics such as age, education, and socioeconomic status likewise shape how users engage with social media for political purposes; for instance, younger, more educated, or economically advantaged individuals are often more active in online political activities compared to their older or less privileged counterparts. This means that while there is generally a correlation between social media and political participation, its effects can differ in each situation. Therefore, further research is needed to account for these variations, provide a more comprehensive understanding of how social media influences political participation across different contexts, and achieve more accurate conclusions.

Additionally, these findings are consistent with those of Choi et al. (2017), who showed that heterogeneity in online social networks can enhance political participation when users actively share news and political information on social media. This research identifies two dimensions of news sharing: news externalizing (e.g., posting news) and internalizing (e.g., seeking information). Each dimension takes a different pathway in influencing political participation: news externalizing directly impacts participation, while news internalizing affects it indirectly through news externalizing. These results reinforce the meta-analysis findings that social media serves as an information platform and an influential political mobilization tool, especially in diverse social network environments.

The high heterogeneity in this meta-analysis reflects variability in outcomes among the studies analyzed. Differences in social and political contexts across countries, research methodologies, and respondent characteristics likely contribute to this variability. For example, Barnidge et al. (2018) found that the relationship between social network heterogeneity and political expression on social media is stronger in countries with limited freedom of expression. Using data from 20 countries, their study revealed that social network heterogeneity significantly promotes political expression in such contexts, emphasizing the critical role of socio-political factors in shaping the effects of social media on political participation.

However, the high heterogeneity values (I² ranging from 99.4% to 99.7%) indicate significant variability among the studies analyzed, which may not be fully explained by contextual differences alone. The consistently high tau² values (ranging from 0.1756 to 0.1968) suggest that this level of variability may be caused by factors previously discussed.

Insights for Indonesian Psychological Research

More research is needed to better understand how various community groups in Indonesia use social media in a political context. For instance, younger people, the largest social media user demographic, have different usage patterns compared to older age groups. Previous research shows that younger generations are more likely to use social media to express political views and engage in online discussions than older generations (Xenos et al., 2014). This suggests that social media may have a more significant impact on political participation among youth. In this context, research in Indonesia could further explore how social media use affects political perceptions, political self-efficacy, and young

peoples political participation level. For example, longitudinal studies could be conducted to observe changes in the political behavior of the younger generation after being exposed to political content on social media over a certain period.

Given the differences in political culture between regions in Indonesia, further research could also examine whether characteristics such as political orientation (liberal vs. conservative) or trust in the political system affect how an individual uses social media for political purposes. This approach would help explain the high heterogeneity in meta-analysis results and provide a better understanding of the factors contributing to social medias effect on political participation in Indonesia.

One of the main challenges in researching the influence of social media on political participation in Indonesia is the high prevalence of online misinformation and hoaxes. A study on the 2019 Indonesian presidential election found that partisan bias heavily impacted belief in misinformation, demonstrating the role of social media platforms like Facebook in spreading hoaxes that polarized political opinions (Halida, 2020). This phenomenon can affect how individuals interact with political information and participate in political discussions. Therefore, further research needs to explore how the quality of information received on social media affects political participation. For example, experimental studies could be conducted to see how exposure to hoaxes or misinformation affects political attitudes and public participation behavior.

Psychological research into political participation on social media in Indonesia must also consider the socio-cultural context that influences it. For example, Indonesias collectivist culture may affect how individuals interact on social media, especially in political discussions. Individuals may be more inclined to follow the political views of a broader group or community rather than voicing personal opinions. Therefore, research that integrates social psychological theories, such as social identity theory or social exchange theory, could help understand how group dynamics influence this issue.

Future research should additionally focus on how social media can be used more effectively to promote healthy and constructive political discussion and minimize misinformation and polarization risks. Researchers and practitioners can develop more inclusive and effective political communication strategies in this digital era by understanding the psychological factors underlying political participation on social media.

Conclusion

Social media has fundamentally transformed political participation by not only reinforcing existing behaviors but also enabling new forms of engagement that were previously less accessible through traditional media. Platforms like Facebook, Instagram, and WhatsApp have facilitated direct interaction with political figures, digital political discussions, and large-scale online activism, as seen in movements such as #MeToo, #BlackLivesMatter, #ReformasiDikorupsi, and #TolakOmnibusLaw. This shift highlights social media as more than just a communication tool-it is a dynamic space reshaping how individuals engage with politics, build social identities, and foster social capital in the digital era.

The research also emphasizes the need for deeper exploration into factors that influence this relationship, such as political ideology, social network composition, and platform-specific behaviors. These findings provide valuable insights for Indonesia, suggesting that understanding local social media dynamics can help strengthen democratic processes and political engagement across diverse regions and social groups.

Recommendation

The results of this meta-analysis indicate that social media use is significantly related to increased political participation. However, these findings should be interpreted cautiously because this study did not include more in-depth analyses of subgroups or meta-regression that could help identify moderating variables affecting this relationship, such as differences in age, gender, political ideology, and the socio-political context in each country. Therefore, future research is advised to conduct subgroup analyses and meta-regression to further explore the sources of high heterogeneity found in this study.

More detailed research could consider factors such as the type of content shared on social media, duration of use, and users' motivations to map how these variables interact in influencing political engagement. Additionally, since this meta-analysis only used sample size (N) and correlation coefficient (r) as the basis for its calculations, further analysis involving other variables such as the moderating effects of political preferences or social tendencies could help enhance the accuracy of the findings. From a policy perspective, these findings can provide insights for policymakers to more effectively leverage social media as a tool for political participationfor example, developing more inclusive digital political communication strategies, as well as educating the public on critical use of social media to minimize the risks of misinformation and polarization. The latter can be done by educating individuals on digital literacy and how to verify information on social media before sharing it. In Indonesia, where the challenges of misinformation and disinformation often create social tension, this strategy could be an important step to encourage better and more informed political participation.

Further research and policies based on these findings could help create a more inclusive digital political ecosystem and strengthen modern democracy. Future studies can focus on developing more complex predictive models to map social media usage patterns among various social groups in Indonesia. Longitudinal studies could also be used to observe changes in public political engagement after exposure to specific political content on social media. This approach will provide a deeper understanding of how social media is used for political purposes in Indonesia, and thus is expected to make a significant contribution to academic literature and the development of more effective political communication strategies in this digital era.

Declaration

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References

Adjei, J. K. (2017). The role of social media in national discourse and mobilization of citizens. *International Conference on Collaboration Technologies and Systems*, 559–563. https://doi.org/10.1109/cts.2016.0103

Ahmed, S., Masood, M., & Wang, Y. (2024). Empowering the religious minority: Examining the mobilizing role of social media for online political participation in an Asian democracy. *Asian Journal of Communication*, *34*, 135–155. https://doi.org/10.1080/01292986.2024.2317314

Assink, M., & Wibbelink, C. J. M. (2016). Fitting three-level meta-analytic models in R: A step-by-step tutorial. *The Quantitative Methods for Psychology, 12*(3), 154–174. https://doi.org/10.20982/tqmp.12.3.p154

Bakshy, E., Messing, S., & Adamic, L. A. (2015). Exposure to ideologically diverse news and opinion on Facebook. *348*. https://doi.org/10.1126/science.aaa1160

Barnidge, M., Huber, B., de Zúñiga, H. G., & Liu, J. H. (2018). Social media as a sphere for Risky political expression: A twenty-country multilevel comparative analysis. *The International Journal of Press/Politics*, *23*, 161–182. https://doi.org/10.1177/1940161218773838

Borrero, J. D., & Borrero-Domínguez, E. (2024). Fostering active citizenship: Facebook's role in youth civic engagement. *Cuadernos.info*, 1–24. https://doi.org/10.7764/cdi.57.63423

Boulianne, S. (2015). Social media use and participation: A meta-analysis of current research. *Information Communication and Society*, *18*, 524–538. https://doi.org/10.1080/1369118X.2015.1008542

Chen, Z., & Chan, M. (2017). Motivations for social media use and impact on political participation in China: A cognitive and communication mediation approach. *Cyberpsychology, Behavior, and Social Networking*, *20*, 83–90. https://doi.org/10.1089/cyber.2016.0174

Choi, J., Lee, J. K., & Metzgar, E. T. (2017). Investigating effects of social media news sharing on the relationship between network heterogeneity and political participation. *Computers in Human Behavior*, *75*, 25–31. https://doi.org/10.1016/j.chb.2017.05.003

Chung, S., & Shim, K. (2020). Understanding antecedents of civic engagement in the age of social media: From the perspective of efficacy beliefs. *Journal of Psychological Research*, *2*, 1–12. https://doi.org/10.30564/jpr.v2i3.1839

Egbunike, N. A. (2023). Political participation and the social media network of young Nigerians. *Journal of African Media Studies*, *15*, 343–361. https://doi.org/10.1386/jams_00110_1

Gilardi, F., Gessler, T., Kubli, M., & Müller, S. (2022). Social media and political agenda setting. *Political Communication*, *39*, 39–60. https://doi.org/10.1080/10584609.2021.1910390

Gopalakrishnan, S., & Ganeshkumar, P. (2013). Systematic reviews and meta-analysis: Understanding the best evidence in primary healthcare. *Journal of Family Medicine and Primary Care*, *2*(1), 9. https://doi.org/10.4103/2249-4863.109934

Hafdahl, A. R. (2009). Improved fisher z estimators for univariate random-effects meta-analysis of correlations. *British Journal of Mathematical and Statistical Psychology*, *62*, 233–261. https://doi.org/10.1348/000711008X281633

Halida, R. (2020). Its not the Facebook access, but the partisan bias which predict belief in misinformation: The case of 2019 Indonesia presidential election. *Makara Human Behavior Studies in Asia*, *24*, 154–165. https://doi.org/10.7454/hubs.asia.1290320

Harff, D., & Schmuck, D. (2024). Is authenticity key? Mobilization by social media influencers versus celebrities and young people's political participation. *Psychology and Marketing*, *41*. https://doi.org/10.1002/mar.22082

Harzing, A. W., & Alakangas, S. (2016). Google Scholar, Scopus and the Web of Science: A longitudinal and cross-disciplinary comparison. *Scientometrics*, *106*, 787–804. https://doi.org/10.1007/s11192-015-1798-9

Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings (2nd ed.).* Sage. https://doi.org/10.1177/1094428106295494

Jost, J. T., Barberá, P., Bonneau, R., Langer, M., Metzger, M., Nagler, J., Sterling, J., & Tucker, J. A. (2018). How social media facilitates political protest: Information, motivation, and social networks. *Political Psychology*, *39*, 85–118. https://doi.org/10.1111/pops.12478

Kalsnes, B., Larsson, A. O., & Enli, G. S. (2017). The social media logic of political interaction: Exploring citizens and politicians relationship on Facebook and Twitter. *First Monday*, *22*(2). https://doi.org/10.5210/fm.v22i2.6348

Kim, H., Kim, Y., & Lee, D. (2020). Understanding the role of social media in political participation: Integrating political knowledge and bridging social capital from the social cognitive approach. *International Journal of Communication*, *14*, 4803–4824. https://ijoc.org/index.php/ijoc/article/view/12711/3219

Koiranen, I., Koivula, A., Kuusela, A., & Saarinen, A. (2024). Examining extra-parliamentary engagement: the impact of online and offline activities on in-party commitment amongst political party members in Finland. *International Journal of Sociology and Social Policy*, *44*, 68–86. https://doi.org/10.1108/IJSSP-01-2024-0021

Kruikemeier, S., Noort, G. V., Vliegenthart, R., & Vreese, C. H. D. (2016). The relationship between online campaigning and political involvement. *Online Information Review*, *40*, 673–694. https://doi.org/10.1108/OIR-11-2015-0346

Lakens, D. (2017). Equivalence tests: A practical primer for t tests, correlations, and meta-analyses. *Social Psychological and Personality Science*, *8*(4), 355–362. https://doi.org/10.1177/1948550617697177

Linde, M., Tendeiro, J. N., Selker, R., Wagenmakers, E.-J., & van Ravenzwaaij, D. (2023). Decisions about equivalence: A comparison of TOST, HDI-ROPE, and the Bayes factor. *Psychological Methods*, *28*(3), 740–755. https://doi.org/10.1037/met0000402

Marquart, F., Ohme, J., & Möller, J. (2020). Following politicians on social media: Effects for political information, peer communication, and youth engagement. *Media and Communication*, *8*(2), 197–207. https://doi.org/10.17645/mac.v8i2.2764

Momeni, M. (2017). Social media and political participation. *New Media & Society*, *19*, 2094–2100. https://doi.org/10.1177/1461444817728054

OpenAI. (2024). ChatGPT (GPT-4o). https://chatgpt.com/

Pandey, V., Gupta, S., & Chattopadhyay, M. (2020). A framework for understanding citizens political participation in social media. *Information Technology and People*, *33*, 1053–1075. https://doi.org/10.1108/ITP-03-2018-0140

Rust, R. T., Lehmann, D. R., & Farley, J. U. (1990). Estimating publication bias in meta-analysis. *Journal of Marketing Research*, *27*(2), 220–226. https://doi.org/10.1177/002224379002700209

Sajid, M., Javed, J., & Warraich, N. F. (2024). The role of Facebook in shaping voting behavior of youth: Perspective of a developing country. *SAGE Open*, *14*. https://doi.org/10.1177/21582440241252213

Saud, M., Ida, R., Mashud, M., Yousaf, F. N., & Ashfaq, A. (2023). Cultural dynamics of digital space: Democracy, civic engagement and youth participation in virtual spheres. *International Journal of Intercultural Relations*, *97*. https://doi.org/10.1016/j.ijintrel.2023.101904

Siegel, M., Eder, J. S. N., Wicherts, J. M., & Pietschnig, J. (2022). Times are changing, bias isnt: A meta-meta-analysis on publication bias detection practices, prevalence rates, and predictors in industrial/organizational psychology. *Journal of Applied Psychology*, *107*(11), 2013–2039. https://doi.org/10.1037/apl0000991

Sindermann, C. (2024). Relations between different components of group identification and types of social media political participation in the context of the Fridays for Future movement. *Personality and Individual Differences*, *230*. https://doi.org/10.1016/j.paid.2024.112773

Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, *126*, 5113–5142. https://doi.org/10.1007/s11192-021-03948-5

Ting, T. T., Lee, M. Y., Chok, S. X., Huang, Y. H., Choy, X. N., Lee, K. T., Ikumapayi, O. M., & Olugbade, T. O. (2024). Digital government: Social media as a mediator in technology acceptance with political knowledge, interest, and participation. *Online Journal of Communication and Media Technologies*, *14*. https://doi.org/10.30935/ojcmt/15145

Tufekci, Z. (2019). A response to Johanne Küblers a review of Zeynep Tufekci Twitter and tear gas: The power and fragility of networked protest (2017, New Haven: Yale University Press). *International Journal of Politics, Culture, and Society*, *32*, 365–369. https://doi.org/10.1007/s10767-019-9317-2

Valenzuela, S. (2013). Unpacking the use of social media for protest behavior: The roles of information, opinion expression, and activism. *American Behavioral Scientist*, *57*, 920–942. https://doi.org/10.1177/0002764213479375

Viechtbauer, W., & Cheung, M. W. (2010). Outlier and influence diagnostics for meta-analysis. *Research Synthesis Methods*, *1*, 112–125. https://doi.org/10.1002/jrsm.11

Wasike, B. (2023). I am an influencer and I approve this message! Examining how political social media influencers affect political interest, political trust, political efficacy, and political participation. *International Journal of Communication*, *17*, 3110–3132. https://ijoc.org/index.php/ijoc/article/view/20293

Welz, T., Doebler, P., & Pauly, M. (2022). Fisher transformation based confidence intervals of correlations in fixed- and random-effects meta-analysis. *British Journal of Mathematical and Statistical Psychology*, *75*, 1–22. https://doi.org/10.1111/bmsp.12242

Xenos, M., Vromen, A., & Loader, B. D. (2014). The great equalizer? Patterns of social media use and youth political engagement in three advanced democracies. *Information, Communication & Society*, *17*(2), 151–167. https://doi.org/10.1080/1369118x.2013.871318

Yang, T., Zhu, G., & Wu, F. (2024). Participate in philanthropy for idols or society? Fans social media practices, dual identity, and civic engagement in Chinese online fandom. *Social Media and Society*, *10*. https://doi.org/10.1177/20563051241261290

Zhu, A. Y. F., Chan, A. L. S., & Chou, K. L. (2019). Creative social media use and political participation in young people: The moderation and mediation role of online political expression. *Journal of Adolescence*, *77*, 108–117. https://doi.org/10.1016/j.adolescence.2019.10.010