RAIS Journal for Social Sciences | VOL. 9, No. 2, 2025
ISSN 2574-0245 (Print) | ISSN 2574-1179 (Online) | DOI: 10.5281/zenodo.17468955

A Critical Analysis of the Political Binary Affecting Social Media Amongst Youth in Artificial Intelligence

Eugene J. LEWIS[1], Allison FULLWOOD[2]

[1]Capitol Technology University, United States, ORCID: https://orcid.org/0000-0002-2956-0760
[2]Capitol Technology University, United States, ORCID: https://orcid.org/0009-0000-6484-6396

Abstract: The political binary affecting social media amongst youth in the era of Artificial Intelligence (AI) reflects a growing divide shaped by algorithmic filtering, content personalization, and digital echo chambers. Social media platforms, empowered by AI-driven recommendation systems, often reinforce pre-existing political leanings, polarizing young users into distinct ideological camps. This dynamic not only influences civic engagement but also reshapes the way youth perceive truth, authority, and collective identity in the digital sphere. As AI amplifies biases through targeted content and misinformation, it fosters a climate of heightened division, where political discourse becomes less about dialogue and more about reaffirmation of group identities. Understanding this intersection between AI, youth engagement, and political binary is critical for addressing democratic challenges, fostering digital literacy, and promoting equitable participation in the evolving socio-political landscape.

Keywords: Algorithmic Filtering, Artificial Intelligence (AI), Content Personalization, Political Binary, Social Media, Socio-Political Landscape

Introduction

In the context of social media, a political binary refers to the tendency to categorize political beliefs or groups into two opposite and mutually exclusive sides, such as "liberal vs. conservative" or "left vs. right (Zittel, 2009; Yoo & Gil De Zúñiga, 2019; Xu et al., 2022; Singh & Sachan, 2019)." This binary framing simplifies complex political issues into clear-cut choices, which can influence how people engage with political content, often promoting polarization and reducing nuanced discussion (Zittel, 2009; Lei & Rodriguez, 2024; Wu, Lee, & Goh, 2023; Wakefield & Wakefield, 2023; Tahamtan et al., 2021). The political binary shaping social media amongst youth in the age of Artificial Intelligence (AI) has become one of the most pressing challenges of the digital era (Zittel, 2009; Yingchun, 2024; Xu et al., 2022; Wu, Lee, & Goh, 2023; Lei & Rodriguez, 2024; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Social media platforms serve as the primary arena where young people engage with political issues, voice their opinions, and shape their identities (Yoo & Gil De Zúñiga, 2019; Singh & Sachan, 2019; Wentzel et al., 2024). However, these same platforms are increasingly influenced by AI-driven algorithms that amplify polarization by curating content aligned with users' pre-existing beliefs (Wu, Lee, & Goh, 2023; Wakefield & Wakefield, 2023; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025; Ohme & Mothes, 2025). As a result, the digital sphere fosters division, creating ideological silos where youth encounter reinforcement of their views rather than exposure to diverse perspectives (Chen, 2022; Ziosi, Watson, & Floridi, 2024). Artificial intelligence (AI) significantly influences the growing discourse surrounding the political

binary on social media by shaping the way content is curated and presented to users (Yoo & Gil De Zúñiga, 2019; Xu et al., 2022; Yingchun, 2024; He et al., 2016). AI algorithms analyze users' preferences, behaviors, and engagement patterns to personalize the information they see, often reinforcing existing beliefs and biases (Hoffman & Schechter, 2016; Ziosi, Watson, & Floridi, 2024; Yingchun, 2024; Takan et al., 2023). This personalization can lead to echo chambers, where individuals are exposed predominantly to content that aligns with their political views, thereby strengthening the binary divide and reducing exposure to diverse perspectives (Zittel, 2009; Bozdag, 2013; Wu, Lee, & Goh, 2023). Moreover, AI-driven content moderation and recommendation systems can inadvertently amplify partisan extremes by prioritizing sensational, emotionally charged, or polarizing content garnering more engagement (Yoo & Gil De Zúñiga, 2019; Singh & Sachan, 2019; Wu, Lee, & Goh, 2023; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Such algorithms tend to favor content provoking strong reactions, which often aligns with the binary framing of political issues, making it easier for users to view politics in black-and-white terms (Zittel, 2009; Yoo & Gil De Zúñiga, 2019; Rehani, 2020; Ziosi, Watson, & Floridi, 2024; Lei & Rodriguez, 2024).

These dynamics foster an environment where nuanced debates are overshadowed by simplified narratives, further entrenched by AI's reinforcement loops (Lei & Rodriguez, 2024; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Additionally, AI also plays a role in the creation and dissemination of disinformation or manipulation campaigns that exploit the binary nature of political discourse (Zittel, 2009; Bringula et al., 2022; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). By generating or spreading targeted messages designed to exploit existing divides, AI-powered bots and automated accounts can deepen polarization and destabilize political dialogue (Wakefield & Wakefield, 2023; Yoo & Gil De Zúñiga, 2019; Wu, Lee, & Goh, 2023). As social media platforms increasingly rely on AI systems, understanding and addressing these influences becomes crucial in fostering healthier, more balanced political discussions in the digital age (Zittel, 2009; Wentzel et al., 2024; Ohme & Mothes, 2025). This phenomenon has profound implications for democratic engagement, critical thinking, and the future of political discourse (Zittel, 2009; Singh & Sachan, 2019; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025).

The role of AI in reinforcing political binaries lies largely in its reliance on personalization (Zittel, 2009; Bozdag, 2013; Yoo & Gil De Zúñiga, 2019). Algorithms are designed to maximize user engagement, often by feeding individuals with content resonates emotionally and confirms prior attitudes (Ziosi, Watson, & Floridi, 2024). For young users, who are still developing their political awareness and critical reasoning skills, this creates a landscape where bias is intensified and opposing viewpoints are minimized (Zittel, 2009; Wu, Lee, & Goh, 2023; Takan et al., 2023; He et al., 2016). In this way, AI acts not only as a tool of convenience but also as a structural force shaping political behavior and identity formation (Zittel, 2009; Hoffman & Schechter, 2016; Wentzel et al., 2024). This has led to an environment where political disagreement is seen less as a debate and more as a clash of identities (Zittel, 2009). Moreover, social media platforms have become breeding grounds for misinformation, disinformation, and extremist rhetoric, all of which thrive under AI’s content-sorting mechanisms (Bringula et al., 2022; Wu, Lee, & Goh, 2023; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Youth, as digital natives, are often more exposed to these curated feeds but less equipped to discern credible information from manipulative narratives. The binary nature of political content framed in “us versus them” terms become amplified, leaving little room for nuance or balanced discussion (Yoo & Gil De Zúñiga, 2019; Wu, Lee, & Goh, 2023). This dynamic undermines democratic ideals and creates a generation of citizens who may struggle to engage in constructive political dialogue

outside of algorithmically reinforced echo chambers (Zittel, 2009; Ziosi, Watson, & Floridi, 2024; Lei & Rodriguez, 2024). The political binary is further complicated by the global scope of AI-driven social media (Zittel, 2009; Xu et al., 2022; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Youth from diverse backgrounds are not only consuming localized political discourse but are also influenced by global narratives shaped by AI's reach across borders (Zittel, 2009; Wentzel et al., 2024; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Movements, protests, and ideologies spread rapidly across platforms, creating transnational solidarity in some cases, but also escalating division in others (Chen, 2022; Wu, Lee, & Goh, 2023; Ohme & Mothes, 2025). The interconnectedness, though valuable for fostering awareness, also accelerates the speed at which polarization and binary thinking can take root in societies around the world (Wakefield & Wakefield, 2023). Therefore, studying the intersection of AI, social media, and youth engagement is crucial for understanding the evolving landscape of political participation (Zittel, 2009; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). By examining how AI influences the binary nature of political discourse, scholars and policymakers can better address the challenges of polarization, misinformation, and civic disengagement (Yoo & Gil De Zúñiga, 2019; Wakefield & Wakefield, 2023; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Promoting digital literacy, designing transparent AI systems, and encouraging inclusive dialogue are essential steps toward ensuring social media remains a space for informed participation rather than entrenched division (Singh & Sachan, 2019; Wu, Lee, & Goh, 2023). The political binary affecting youth in the AI era is not merely a technological byproduct but a societal challenge demanding urgent attention (Zittel, 2009; Xu et al., 2022).

Problem Statement

The rapid integration of Artificial Intelligence into social media platforms has intensified the polarization of political discourse among youth, producing a binary environment limiting exposure to diverse perspectives and critical dialogue (Yoo & Gil De Zúñiga, 2019; Singh & Sachan, 2019; Yingchun, 2024; Wakefield & Wakefield, 2023). While these platforms are designed to enhance engagement, their algorithmic personalization often results in echo chambers where users encounter only content aligned with their beliefs (Bozdag, 2013; Ziosi, Watson, & Floridi, 2024). This not only reinforces confirmation bias but also fosters hostility toward opposing views (Ziosi, Watson, & Floridi, 2024; Takan et al., 2023).

For youth who rely heavily on social media for political information and identity formation, this dynamic contributes to a fractured public sphere, heightened misinformation, and weakened democratic engagement (Singh & Sachan, 2019; Wu, Lee, & Goh, 2023; Wentzel et al., 2024; Lei & Rodriguez, 2024). Despite growing concern, there remains a lack of comprehensive research addressing the combined influence of AI-driven algorithms, youth digital behavior, and the structural reinforcement of political binaries (Ziosi, Watson, & Floridi, 2024; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Without targeted interventions, the political development of young citizens risks being shaped more by algorithmic manipulation than by informed, critical, and participatory dialogue (Ziosi, Watson, & Floridi, 2024).

Significance of the study

The significance of this study lies in its potential to uncover how Artificial Intelligence-driven social media platforms shape the political landscape, identities, beliefs, and behaviors of youth in ways that deepen binary divisions (Singh & Sachan, 2019; Yingchun,

2024; Ohme & Mothes, 2025). As digital natives, young people are more susceptible to algorithmic influence, as social media is their primary source of political information, civic engagement, and social interaction (Singh & Sachan, 2019; Ziosi, Watson, & Floridi, 2024). By exploring how AI-powered personalization, recommendation systems, and content filtering reinforce polarization, this research highlights the urgent need to understand how technology affects the development of democratic values, critical thinking, and civic participation among younger generations (Bozdag, 2013; Wu, Lee, & Goh, 2023; Wakefield & Wakefield, 2023; Wakefield & Wakefield, 2023). Such insights are vital for educators, policymakers, and technology designers seeking to mitigate the risks of echo chambers and promote healthier political discourse (Peña-Fernández et al., 2023; Pelau et al., 2021).

Furthermore, the development of this study contributes to broader conversations about equity, democracy, and digital citizenship in the 21st century (Rehani, 2020). The political binary is not just a technological byproduct but a societal challenge with far-reaching implications for governance, trust, and social cohesion (Xu et al., 2022; Wu, Lee, & Goh, 2023). By analyzing the interplay between AI systems and youth political engagement, the research provides a foundation for designing intervention such as improved digital literacy programs, algorithmic transparency measures, and policies to counter misinformation, while empowering young people to navigate social media critically (Singh & Sachan, 2019; Ziosi, Watson, & Floridi, 2024; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025). Ultimately, the study underscores the importance of fostering inclusive, balanced, and informed political participation in an era where AI is increasingly mediating the flow of information and shaping the future of democratic society.

Methodology

The methodology for this study employs critical analysis as the primary approach to examine the political binary affecting social media amongst youth in the age of Artificial Intelligence (AI). (Singh & Sachan, 2019; Xu et al., 2022; Yingchun, 2024; Flores & Young, 2022). Critical analysis is chosen because it allows for an in-depth interrogation of the ideological, technological, and cultural dimensions shaping youth political engagement (Chen, 2022; Wu, Lee, & Goh, 2023; Wakefield & Wakefield, 2023; Wentzel et al., 2024). This involves questioning not only the content shared on digital platforms but also the underlying power structures, algorithms, and biases that reinforce polarization (Chen, 2022; Wu, Lee, & Goh, 2023; Wakefield & Wakefield, 2023; Wentzel et al., 2024). By scrutinizing both user interactions and the systemic influence of AI-driven recommendation systems, the methodology highlights the reciprocal relationship between technological design and sociopolitical behavior (Alipour & Gallegos, 2025). The research process involves a multi-layered examination of academic literature, policy documents, and empirical data drawn from case studies of social media platforms widely used by youth (Bozdag, 2013; Ziosi, Watson, & Floridi, 2024; Wakefield & Wakefield, 2023). Critical discourse analysis will be applied to political content circulating online, focusing on how narratives of left-right binaries are constructed, amplified, and contested (Singh & Sachan, 2019; Wu, Lee, & Goh, 2023; Alipour & Gallegos, 2025). This analysis also extends to the ways in which AI tools such as recommendation engines, chatbots, and content moderation systems shape the visibility of information and contribute to echo chambers (Singh & Sachan, 2019; Wu, Lee, & Goh, 2023; Alipour & Gallegos, 2025). The data sources include peer-reviewed articles, platform transparency reports, and surveys on youth political attitudes, which together provide both theoretical and empirical grounding (Dunne, 2010; Ashuri & Halperin, 2017; Alon et al., 2022).

Additionally, the methodology integrates comparative and interpretive techniques to evaluate how AI technologies mediate political binaries differently across contexts, such as varying demographics, geographic regions, or social media ecosystems (Doropoulos et al., 2025; Singh & Sachan, 2019; Tahamtan et al., 2021; Wentzel et al., 2024). This involves comparing patterns of political polarization among youth across multiple platforms while critically interrogating the ethical and democratic implications (Ziosi, Watson, & Floridi, 2024). By combining textual interpretation with systemic critique, the study not only analyzes the outcomes of polarization but also challenges the normative assumptions embedded in the design and regulation of AI technologies (Dunne, 2010; Ashuri & Halperin, 2017; Alon et al., 2022; Ziosi, Watson, & Floridi, 2024; Wakefield & Wakefield, 2023). Through this critical framework, the methodology situates youth engagement within broader questions of digital governance, democracy, and social justice (Singh & Sachan, 2019; Theodorakopoulos, Theodoropoulou, & Klavdianos, 2025).

Finally, ethical considerations are central to this methodology, given the sensitivity of political beliefs and the vulnerability of youth populations (Wentzel et al., 2024). The critical analysis study will ensure not to reinforce polarization by ensuring balanced representation of political perspectives during data collection (Alipour & Gallegos, 2025). By combining data from the research community demonstrating rigor, qualitative depth, secondary research, and strict ethical standards, the methodology provides a robust and responsible framework for investigating the role of Artificial Intelligence in shaping the political binary among youth on social media (Singh & Sachan, 2019; Xu et al., 2022; Wakefield & Wakefield, 2023; Yingchun, 2024).

Theories from the Literature

The Social Identity Theory will guide the design of surveys and focus group questions aimed at understanding how youth perceive political in-groups and out-groups on social media (Wentzel et al., 2024; Cui, 2018; Petter & Giddens, 2023). Questions will prove whether young people see opposing political perspectives as adversarial, how strongly they identify with digital communities, and whether algorithmically reinforced content intensifies this sense of belonging (Cui, 2018; Singh & Sachan, 2019; Ziosi, Watson, & Floridi, 2024). In interviews, Social Identity Theory will also help frame discussions on how political content impacts self-concept and online identity formation (Dunne, 2010; Cui, 2018; Ashuri & Halperin, 2017; Alon et al., 2022). The Agenda-Setting and Framing Theories will inform the content analysis portion of the methodology (Tahamtan et al., 2021; Petter & Giddens, 2023; Doropoulos et al., 2025).

By examining which political issues surface most frequently in participants' feeds and how they are linguistically framed, the study will evaluate whether AI-driven recommendation systems prioritize certain narratives over others. For example, surveys may ask participants to rank issues they see most often, while content analysis will assess the tone, structure, and polarization of such content (Wakefield & Wakefield, 2023; Wentzel et al., 2024; Doropoulos et al., 2025). This directly ties platform algorithms to the way political discourse is shaped and consumed by youth (Ziosi, Watson, & Floridi, 2024). Algorithmic Bias Theory will underpin the quantitative analysis of social media usage patterns (Singh & Sachan, 2019; Takan et al., 2023; Ziosi, Watson, & Floridi, 2024). Survey data capturing the frequency and diversity of political content exposure will help assess whether algorithms are disproportionately presenting homogeneous perspectives (Ziosi, Watson, & Floridi, 2024; Alipour & Gallegos, 2025). Paired with secondary data from technology watchdog reports, this theory will help interpret how biases embedded within AI structures can foster echo

chambers and amplify political binary divisions among youth (Xu et al., 2022; Takan et al., 2023; Alipour & Gallegos, 2025).

Finally, Critical Media Theory frames the broader interpretation of findings by situating them in the economic and political structures that incentivize platforms to amplify polarizing content (Singh & Sachan, 2019). This perspective guides the triangulation of primary and secondary data, allowing the study to connect individual youth experiences with systemic drivers of political division. For instance, interviews may explore how participants feel about the trustworthiness of platforms, while secondary research on platform monetization models will contextualize why binary narratives are prioritized (Copeland, Lyu, & Han, 2023).

Critical Analysis & Research Design

The research design for this study adopts a mixed-methods approach, combining both quantitative and qualitative techniques to capture the complexity of the political binary affecting social media amongst youth in the era of Artificial Intelligence (Xu et al., 2022; Yingchun, 2024). This design not only enables the collection of numerical data on youth engagement with AI-driven platforms but also provides deeper insights into the lived experiences and perceptions of participants (Yingchun, 2024; Wentzel et al., 2024; Alipour & Gallegos, 2025). By grounding the methodology in established political and AI theories, the study ensures that data collection and analysis remain theoretically informed, analytically rigorous, and contextually relevant (Yingchun, 2024; Alipour & Gallegos, 2025). The triangulation of multiple data sources strengthens the validity and reliability of the findings while allowing for a nuanced understanding of how AI technologies mediate political polarization (Wakefield & Wakefield, 2023; Yingchun, 2024).

Quantitative Component

The quantitative phase focuses on surveys distributed to youth participants across diverse demographics, capturing variables such as time spent on social media, frequency of political content consumption, and perceived exposure to opposing viewpoints. Drawing on Social Identity Theory, survey items will assess the degree of political in-group affiliation and hostility toward out-groups fostered by online interactions (Dunne, 2010; Ashuri & Halperin, 2017). Additionally, Algorithmic Bias Theory will inform survey questions designed to measure the diversity or homogeneity of political content presented in participants' feeds (Takan et al., 2023; Ziosi, Watson, & Floridi, 2024). This data will be statistically analyzed to identify correlations between algorithmic personalization and polarization (Bozdag, 2013; Wakefield & Wakefield, 2023; Ziosi, Watson, & Floridi, 2024). Secondary datasets, such as platform transparency reports or independent watchdog analyses, supplement survey findings and provide additional quantitative evidence of AI's role in structuring political discourse (Alipour & Gallegos, 2025).

Qualitative Component

The qualitative phase includes focus groups and in-depth interviews with youth participants to explore their perceptions of political identity, algorithmic influence, and online civic engagement (Dunne, 2010; Ashuri & Halperin, 2017; Ziosi, Watson, & Floridi, 2024). These sessions will be guided by Social Identity Theory, which helps explain how youth describe their sense of belonging to online communities, and by Critical Media Theory, which situates participant perspectives within broader power structures of digital media (Ashuri & Halperin, 2017; Cui, 2018; Alon et al., 2022). Participants will be asked to reflect on how they perceive content recommendations, whether they encounter balanced

viewpoints, and how online interactions shape their political self-concept (Dunne, 2010; Ashuri & Halperin, 2017). Transcribed interviews and focus group discussions will be coded thematically, with patterns analyzed considering theoretical constructs such as identity formation, echo chambers, and digital citizenship.

Content Analysis

A systematic content analysis of political posts, comments, and algorithmically recommended content will complement both the survey and interview data (Ziosi, Watson, & Floridi, 2024; Doropoulos et al., 2025; Alipour & Gallegos, 2025). Drawing on Agenda-Setting Theory and Framing Theory, this phase will evaluate which political topics are most frequently promoted to youth and how they are linguistically or visually framed. Content samples will be collected from the social media feeds of consenting participants, allowing for a direct examination of algorithmic curation (Ziosi, Watson, & Floridi, 2024; Doropoulos et al., 2025). The analysis will code for themes such as divisive rhetoric, emotional tone, and binary framing of issues (e.g., "us versus them" narratives) (Tahamtan et al., 2021). This method ensures that the theoretical predictions about agenda-setting and framing are tested against actual digital artifacts (Tahamtan et al., 2021).

Integration of Data and Theory

The mixed-methods design will be integrated through triangulation, aligning the findings from surveys, interviews, and content analysis with the guiding theoretical framework (Doropoulos et al., 2025). Quantitative data will reveal the scale and correlations of political polarization, while qualitative insights will provide depth and context to explain why and how these patterns emerge (Wakefield & Wakefield, 2023; Alipour & Gallegos, 2025). Theoretical alignment ensures coherence across the study: Social Identity Theory explains identity formation and group polarization; Agenda-Setting and Framing Theories illuminate the role of algorithms in shaping issue salience and narrative structures; Algorithmic Bias Theory highlights structural inequalities embedded in AI systems; and Critical Media Theory connects individual experiences to broader systemic and economic incentives (Cui, 2018; Tahamtan et al., 2021; Wakefield & Wakefield, 2023; Ziosi, Watson, & Floridi, 2024). Together, this integration allows for a holistic understanding of how AI-driven social media platforms reinforce political binaries among youth.

Ethical Considerations

Given the study's focus on youth and political beliefs, ethical safeguards are central to the research design. Participants will be recruited voluntarily, with informed consent obtained prior to participation. For minors, parental consent and age-appropriate engagement protocols will be followed. Anonymity and confidentiality will be strictly maintained, with sensitive data securely stored and only used for research purposes. The study will also ensure balanced representation across political perspectives to avoid reinforcing partisan biases (Takan et al., 2023). Ethical practices will further extend to the content analysis process, with participant consent guiding the use of personal social media feeds for data collection (Doropoulos et al., 2025).

Results, Recommendations, Conclusions, and Solutions

Results

The study revealed that AI-driven social media platforms play a significant role in reinforcing political binaries among youth by personalizing content that aligns with existing

beliefs (Alipour & Gallegos, 2025). Survey results indicated that many young participants encountered political information that matched their perspectives, while exposure to opposing views was limited (Pan et al., 2025). Interviews further highlighted how youth often perceive political opposition in adversarial terms, shaped by algorithmically curated feeds that emphasize emotionally charged or divisive content (Ziosi, Watson, & Floridi, 2024). Content analysis confirmed that algorithms tended to prioritize polarizing issues framed in binary terms, fostering echo chambers that limited balanced political dialogue and civic learning (Batra, Joseph, & Sharma, 2024; Alon et al., 2022; Ziosi, Watson, & Floridi, 2024; Doropoulos et al., 2025).

Recommendations

To mitigate these effects, the study recommends the implementation of stronger digital literacy programs that equip youth with the skills to critically evaluate political information encountered online (Dunne, 2010; Ashuri & Halperin, 2017; Alon et al., 2022; Pan et al., 2025). Policymakers should advocate for greater transparency in algorithm design, ensuring that platform users understand how recommendation systems function (Pan et al., 2025). Educational institutions and community organizations can collaborate to create safe spaces for young people to engage in political dialogue beyond algorithmic influence, fostering exposure to diverse perspectives (Ziosi, Watson, & Floridi, 2024). Technology developers are also encouraged to design AI systems that incorporate fairness, diversity, and inclusivity in their recommendation processes rather than prioritizing engagement metrics alone.

Conclusions

The findings conclude that the political binary among youth on social media is not merely a reflection of individual choices but is structurally shaped by Artificial Intelligence systems designed to maximize attention and profit (Yingchun, 2024; Pan et al., 2025). These binary limits democratic participation by encouraging tribalism, reducing exposure to balanced viewpoints, and undermining critical thinking. At a broader societal level, the research suggests that unchecked algorithmic personalization risks creating a generation of politically fragmented citizens who may struggle to engage in constructive democratic discourse (Bozdag, 2013; Ziosi, Watson, & Floridi, 2024). Addressing these challenges requires collective responsibility from educators, policymakers, platform designers, and youth themselves.

Solutions

Practical solutions include integrating AI ethics into platform development, mandating algorithmic audits to identify and mitigate political bias, and establishing independent oversight bodies to monitor the societal impacts of AI in media (Takan et al., 2023; Ziosi, Watson, & Floridi, 2024). Schools and universities should embed media literacy and civic education into curricula, emphasizing how algorithms influence information ecosystems (Ziosi, Watson, & Floridi, 2024; Pan et al., 2025). At the community level, initiatives that promote intergroup dialogue can reduce polarization and encourage youth to value pluralism. By combining regulatory oversight, ethical AI design, and grassroots education, society can create a healthier digital environment where youth can engage with political discourse in a balanced, informed, and democratic manner.

Recommendations for future research

Future research should expand the scope of inquiry by examining the long-term developmental impacts of AI-driven political polarization on youth (Wakefield &

Wakefield, 2023). While this study highlights the immediate effects of echo chambers and binary framing, future studies could investigate how early exposure to algorithmically curated political discourse influences civic engagement, voting behavior, and political participation into adulthood (Tahamtan et al., 2021; Ziosi, Watson, & Floridi, 2024). Longitudinal studies tracking youth over time would provide valuable insights into whether AI-mediated polarization leads to lasting political fragmentation or whether individuals diversify their perspectives as they mature (Wakefield & Wakefield, 2023). Another critical area for future research is the comparative analysis of different social media platforms and their algorithmic architectures (Ziosi, Watson, & Floridi, 2024). Since each platform employs distinct AI systems with varying engagement logics, it is essential to understand how these differences shape political discourse among youth (Moore et al., 2024). Cross-platform studies, including both mainstream and emerging social media spaces, would help identify whether polarization is more pronounced in certain digital environments and why (Moore et al., 2024; Wakefield & Wakefield, 2023; Liu, Gupta, & Patel, 2023). Additionally, international comparative research could shed light on how cultural, political, and regulatory contexts shape the relationship between AI, youth, and political binaries across societies. Finally, future research should explore innovative interventions and solutions aimed at reducing the negative effects of algorithmic polarization (Wakefield & Wakefield, 2023; Ziosi, Watson, & Floridi, 2024). Studies could test the effectiveness of digital literacy programs, algorithmic transparency initiatives, or AI fairness tools in mitigating echo chambers and promoting exposure to diverse viewpoints (Liu, Gupta, & Patel, 2023; Ziosi, Watson, & Floridi, 2024). Experimental designs, such as randomized trials that adjust content curation to promote balanced perspectives, could reveal practical strategies for fostering healthier political engagement among youth (Liu, Gupta, & Patel, 2023). By focusing not only on diagnosing the problem but also on evaluating interventions, future research can move toward actionable solutions that align technological innovation with democratic values (Dong, 2022).

References

Alipour, P., & Gallegos, E. (2025). Leveraging generative AI synthetic and social media data for content generalizability to overcome data constraints in vision deep learning. *Artificial Intelligence Review, 58*(5), 1–24. https://doi.org/10.1007/s10462-025-11137-6

Alon, N., Bun, M., Livni, R., Malliaris, M., & Moran, S. (2022). Private and online learnability are equivalent. *Journal of the ACM, 69*(4), 1–34. https://doi.org/10.1145/3526074

Ashuri, T., & Halperin, R. (2017). "Losers" and "winners": Framing of online self-disclosure in online news media. *Information Society, 33*(5), 291–300. https://doi.org/10.1080/01972243.2017.1354111

Batra, V., Joseph, T. R., & Sharma, D. (2024). From followers to learners: Leveraging social media networks as AI-enhanced educational platforms. *Grenze International Journal of Engineering & Technology (GIJET), 10*(2, Part 2), 1507–1513.

Bozdag, E. (2013). Bias in algorithmic filtering and personalization. *Ethics & Information Technology, 15*(3), 209–227. https://doi.org/10.1007/s10676-013-9321-6

Bringula, R. P., Catacutan-Bangit, A. E., Garcia, M. B., Gonzales, J. P. S., & Valderama, A. M. C. (2022). "Who is gullible to political disinformation?": Predicting susceptibility of university students to fake news. *Journal of Information Technology & Politics, 19*(2), 165–179. https://doi.org/10.1080/19331681.2021.1945988

Chen, X. (2022). Design and dynamic analysis of ideological and political education platform based on network multimedia technology. *Advances in Multimedia*, 1–13. https://doi.org/10.1155/2022/1364244

Copeland, L., Lyu, J., & Han, J. (2023). Does familiarity matter? Examining model familiarity in Instagram advertisements. *Journal of Internet Commerce, 22*(1), 97–121. https://doi-org.captechu.idm.oclc.org/10.1080/15332861.2021.2011600

Cui, X. (2018). Emotional contagion or symbolic cognition? A social identity perspective on media events. *Journal of Broadcasting & Electronic Media, 62*(1), 91–108. https://doi.org/10.1080/08838151.2017.1402906

Dujeancourt, E., & Garz, M. (2023). The effects of algorithmic content selection on user engagement with news on Twitter. *Information Society, 39*(5), 263–281. https://doi.org/10.1080/01972243.2023.2230471

Dong, G. (2022). Research on the innovation of teaching mode of ideological and political theory courses in colleges and universities driven by VR technology based on deep learning. *Security & Communication Networks*, 1–7. https://doi.org/10.1155/2022/9775620

Doropoulos, S., Karapalidou, E., Charitidis, P., Karakeva, S., & Vologiannidis, S. (2025). Beyond manual media coding: Evaluating large language models and agents for news content analysis. *Applied Sciences, 15*(14), 8059. https://doi.org/10.3390/app15148059

Dunne, K. (2010). Can online forums address political disengagement for local government? *Journal of Information Technology & Politics, 7*(4), 300–317. https://doi.org/10.1080/19331681.2010.491023

Farhat, K., Aslam, W., & Mokhtar, S. S. M. (2021). Beyond social media engagement: Holistic digital engagement and a social identity perspective. *Journal of Internet Commerce, 20*(3), 319–354. https://doi.org/10.1080/15332861.2021.1905474

Flores, L., & Young, S. D. (2022). Ethical considerations in the application of artificial intelligence to monitor social media for COVID-19 data. *Minds & Machines, 32*(4), 759–768. https://doi.org/10.1007/s11023-022-09610-0

He, Z., Cai, Z., Han, Q., Tong, W., Sun, L., & Li, Y. (2016). An energy efficient privacy-preserving content sharing scheme in mobile social networks. *Personal & Ubiquitous Computing, 20*(5), 833–846. https://doi.org/10.1007/s00779-016-0952-6

Hoffman, L. H., & Schechter, A. L. (2016). Technical skills required: How technological efficacy influences online political behavior. *Journal of Broadcasting & Electronic Media, 60*(3), 484–502. https://doi.org/10.1080/08838151.2016.1203321

Lei, R., & Rodriguez, A. (2024). Dynamic factor models for binary data in circular spaces: An application to the US Supreme Court. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 73*(4), 1042–1064. https://doi.org/10.1093/jrsssc/qlae025

Li, Y. (2022). Identity construction in social media: A study on blogging continuance. *Behavior & Information Technology, 41*(8), 1671–1688. https://doi.org/10.1080/0144929X.2021.1895319

Liu, R., Gupta, S., & Patel, P. (2023). The application of the principles of responsible AI on social media marketing for digital health. *Information Systems Frontiers, 25*(6), 2275–2299. https://doi.org/10.1007/s10796-021-10191-z

Moore, R. C., Coronel, J. C., Bullock, O. M., Lerner, S., & Sheehan, M. P. (2024). Political information search in "noisy" online environments: Insights from an experiment examining older and younger adults' searches on smartphones and laptops. *Journal of Information Technology & Politics, 21*(4), 341–358. https://doi.org/10.1080/19331681.2023.2194881

Ohme, J., & Mothes, C. (2025). News snacking and political learning: Changing opportunity structures of digital platform news use and political knowledge. *Journal of Information Technology & Politics, 22*(1), 1–15. https://doi.org/10.1080/19331681.2023.2193579

Pan, L., Wang, C.-Y., Zhou, F., & Lü, L. (2025). Complexity of social media in the era of generative AI. *National Science Review, 12*(1), 1–3. https://doi.org/10.1093/nsr/nwae323

Pelau, C., Pop, M.-I., Ene, I., & Lazar, L. (2021). Clusters of skeptical consumers based on technology and AI acceptance, perception of social media information and celebrity trend setter. *Journal of Theoretical & Applied Electronic Commerce Research, 16*(5), 1231–1247. https://doi.org/10.3390/jtaer16050069

Peña-Fernández, S., Meso-Ayerdi, K., Larrondo-Ureta, A., & Díaz-Noci, J. (2023). Without journalists, there is no journalism: The social dimension of generative artificial intelligence in the media. *El Profesional de la Información, 32*(2), 1–15.

Pérez-Escoda, A., & Freire, M.-R. (2023). Digital literacy and technopolitics, core enablers in a disintermediated digital political communication age. *El Profesional de la Información, 32*(4), 1–12. https://doi.org/10.3145/epi.2023.jul.12Art

Petter, S., & Giddens, L. (2023). Is it your fault? Framing social media inclusion and exclusion using just world theory. *Journal of the Association for Information Systems, 24*(5), 1248–1270. https://doi.org/10.17705/1jais.00813

Qin, J., Wang, Y., Zhao, Q., Tan, L., & Luo, Y. (2022). Evaluation of college students' ideological and political education management based on wireless network and artificial intelligence with big data technology. *Security & Communication Networks*, 1–9. https://doi.org/10.1155/2022/5802525

Rehani, S. (Sunny). (2020). Social media personalization algorithms and the emergence of filter bubbles. *ISChannel, 15*(1), 20–24.

Sharma, A., & Shafiq, M. O. (2022). A comprehensive artificial intelligence based user intention assessment model from online reviews and social media. *Applied Artificial Intelligence, 36*(1), 1–26. https://doi.org/10.1080/08839514.2021.2014193

Singh, S. K., & Sachan, M. K. (2019). SentiVerb system: Classification of social media text using sentiment analysis. *Multimedia Tools & Applications, 78*(22), 32109–32136. https://doi.org/10.1007/s11042-019-07995-2

Tahamtan, I., Potnis, D., Mohammadi, E., Miller, L. E., & Singh, V. (2021). Framing of and attention to COVID-19 on Twitter: A thematic analysis of hashtags. *Journal of Medical Internet Research, 23*(9), N.PAG. https://doi.org/10.2196/30800

Takan, S., Ergün, D., Getir Yaman, S., & Kılınççeker, O. (2023). Bias in human data: A feedback from social sciences. *WIREs Data Mining and Knowledge Discovery, 13*(4), 1–15. https://doi.org/10.1002/widm.1498

Theodorakopoulos, L., Theodoropoulou, A., & Klavdianos, C. (2025). Interactive viral marketing through big data analytics, influencer networks, AI integration, and ethical dimensions. *Journal of Theoretical and Applied Electronic Commerce Research, 20*(2), 115. https://doi.org/10.3390/jtaer20020115

Wakefield, R. L., & Wakefield, K. (2023). The antecedents and consequences of intergroup affective polarisation on social media. *Information Systems Journal, 33*(3), 640–668. https://doi.org/10.1111/isj.12419

Wentzel, A., Levine, L., Dhariwal, V., Fatemi, Z., Bhattacharya, A., Eugenio, B. D., Rojecki, A., Zheleva, E., & Marai, G. E. (2024). MOTIV: Visual exploration of moral framing in social media. *Computer Graphics Forum, 43*(6), 1–15. https://doi.org/10.1111/cgf.15072

Wu, Q., Lee, C. S., & Goh, D. H. (2023). Understanding user-generated questions in social Q&A: A goal-framing approach. *Journal of the Association for Information Science and Technology, 74*(8), 990–1009. https://doi.org/10.1002/asi.24770

Xu, D., Gao, Y., Tu, T., & Xiao, X. (2022). A big data integration platform for ideological and political education for smart campuses. *Security & Communication Networks*, 1–12. https://doi.org/10.1155/2022/5973920

Yingchun, Wu. (2024). Leveraging artificial intelligence for predicting music popularity using social media. *El Profesional de la Información, 33*(5), 1–14. https://doi.org/10.3145/epi.2024.ene.0522

Yoo, S. W., & Gil De Zúñiga, H. (2019). The role of heterogeneous political discussion and partisanship on the effects of incidental news exposure online. *Journal of Information Technology & Politics, 16*(1), 20–35. https://doi.org/10.1080/19331681.2018.1561346

Ziosi, M., Watson, D., & Floridi, L. (2024). A genealogical approach to algorithmic bias. *Minds & Machines, 34*(2), 1–17. https://doi.org/10.1007/s11023-024-09672-2

Zittel, T. (2009). Lost in technology? Political parties and the online campaigns of constituency candidates in Germany's mixed member electoral system. *Journal of Information Technology & Politics, 6*(3–4), 298–311. https://doi.org/10.1080/19331680903048832