Modern Democracies in Danger? Analyzing the Influence of Online Disinformation on Democratic Backsliding

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The academic community has recently conducted numerous studies on the impacts of the potential wave of democratic backsliding faced by modern democracies. Data from 2012 to 2022 indicate a concerning decline in the number of liberal democracies, with the count decreasing from 42 to 34 (Druckman, 2023, p. 1). Global events, including the storming of the US Capitol in 2021, the 2023 attacks on the federal government buildings in Brazil, and the rise in electoral support for populist parties in Europe, underscore the significance attached to the topic (Kydd, 2021, p. 3; Norris, 2017, p. 12; Rossini, Mont`Alverne & Kalogeropoulos, 2023, p. 3). These occurrences serve as examples of similar events occurring worldwide, indicating a potential trend and highlighting the need for a thorough investigation into the underlying forces at play. Acknowledging the significance of comprehending the origins of these forces is crucial, as they may represent unwelcome challenges to the stability and functioning of democratic regimes.

In this context, contemporary challenges posed by rapidly advancing technologies may have a direct impact on democratic regimes. In the last decade, social media platforms have emerged as fertile ground for the dissemination of disinformation, misinformation, and the manipulation of public opinion by elites. Consequently, multiple studies seeking to understand the possible impacts on the stability and integrity of imperative democratic norms and institutions have emerged (Bradshaw & Howard, 2021, p. 24; European Commission, 2018, p. 12; Lewandowsky et al., 2023, p. 1; McKay & Tenove, 2021, p. 703). When assessing studies on this topic, several scholars find evidence that online disinformation has a negative impact on democracy (Bünte, 2020; Clayton et al., 2021; Guess & Lyons, 2020; Lewandowsky et al., 2023; McKay & Tenove, 2021; Tucker, Theocharis, Roberts & Barberá, 2017). While these studies contribute significantly to the field, their primary focus lies on individual countries or specific regions (Guess & Lyons, 2020, p. 26). Accordingly, a notable gap persists in analyzing the relationship between online

disinformation and democratic backsliding using data that facilitates a global understanding. Acknowledging these limitations, this research proposes the following question: Does online disinformation facilitate democratic backsliding?

Before delving deeper into the research question, a few considerations about the study of democratic backsliding are crucial. Despite the growing body of literature, consensus is far from reached when assessing the presence of democratic backsliding and its driving forces (Diamond, 2021, pp. 29, 40; Druckman, 2023, p. 2; Little & Meng, 2023; Lührmann & Lindberg, 2019, p. 1108; Mechkova, Lührmann & Lindberg, 2017, p. 167). In response to this scenario, scholars have recently shifted their focus towards a more comprehensive understanding of democratic backsliding, aiming to create a framework for future research in this domain. Within this evolving idea, relevant studies agree that democratic backsliding essentially refers to the progressive deterioration of democratic norms and institutions within a state (Druckman, 2023; Bermeo, 2016; Jee, Lueders & Myrick, 2022; Waldner & Lust, 2018). However, a fundamental issue in studying democratic backsliding is scholars disagreement on which democratic norms and institutions should be the focus. This challenge arises from the intricate nature of defining democracy, a concept with no universal definition, which, in turn, may lead to studies presenting different manifestations of democratic backsliding due to the lack of precision with the conceptualization of democracy, leaving some factors more apparent than others (Druckman, 2023, p. 2; Jee et al., 2022, pp. 758, 763; Knutsen et al., 2023, p. 1).

To address these concerns, Jee et al.'s (2022) adopt an innovative approach, demonstrating that commencing with a comprehensive definition of democracy enables researchers to recognize the diverse pathways through which backsliding can manifest. Their study, detailed in the theory section, crucially reveals that approximately 75% of scholarly attention on this topic has

concentrated on two of the three pathways they recognize. This concentration has led to an incomplete understanding of the forces driving democratic backsliding and its impacts. In response, I place emphasis on the understudied pathway, or arena, as they propose, highlighting that the widespread use of fake news undermines a shared understanding of facts, impacting citizens ability to make informed decisions in political contexts and influencing the norms and institutions present in the first two arenas. This underscores the importance of studies assessing issues such as online disinformation as a factor facilitating democratic backsliding (Jee et al., 2022, pp. 761–762). Accordingly, Lewandowski et al. (2023) agree about the critical role of a shared body of reliable knowledge among citizens in safeguarding crucial aspects necessary for sustaining a democracy. Their review emphasizes the pervasive influence of misinformation and disinformation on undermining shared knowledge. This becomes especially apparent as undemocratic leaders worldwide employ similar strategies, leading to similar issues in different countries. For instance, prior to his recent election in Argentina, Javier Milei employed tactics similar to those used by Donald Trump in the U.S. and Jair Bolsonaro in Brazil in recent years. He and other actors associated to him utilized social media platforms and online disinformation to attack the electoral system and suggest the potential for fraud. Such actions can sow doubts in the electoral system, potentially discouraging voter participation and causing citizens to question the validity of election results (Centenera & Criales, 2023, para. 5; Clayton et al., 2021; European Commission, 2018, p. 12).

Consequently, I argue that the elite's usage of online disinformation negatively impacts vital aspects of democracy, fueling democratic backsliding. By distorting information, it compromises citizen access to accurate knowledge, undermining informed decision-making, and potentially compromises electoral processes. This erosion extends to hindering public

accountability, impeding meaningful participation in policy shaping, and weakening the vital constraint mechanisms within a democratic regime. Furthermore, online disinformation disrupts the promotion of equal citizenship by distorting a shared understanding of facts, fragmenting the information landscape, and impeding informed decision-making. Acknowledging this relationship as a global issue, this research seeks to address the identified gap by analyzing the relationship between online disinformation and democratic backsliding across 117 countries. Utilizing data from the Varieties of Democracy (V-Dem) and the Digital Society Survey datasets, this comprehensive approach is crucial to understanding whether online disinformation contributes to a potential worldwide trend of democratic backsliding (Coppedge et al., 2023a; Mechkova et al., 2022). As discussed in the analysis, I find statistically significant results indicating a positive linear relationship that indicates that countries with high levels of online disinformation also present a high level of democratic backsliding.

Theory

Democracy and its Intricacies

The complexities of defining democracy lead to varying opinions on the potential causes and threats posed by democratic backsliding. Recognizing the attributes of a democratic system at risk of erosion is crucial, and achieving an accurate understanding requires a precise definition of democracy (Jee et al., 2023, p. 763). Accordingly, a foundational perspective for understanding what constitutes a democracy is vital, and Dahl's (1971) classic formulation of democracy functions as a precise starting point (Waldner & Lust, 2018, p. 107). According to his concept of polyarchy, an electoral democracy must sustain essential elements such as "clean elections, freedom of association, universal suffrage, an elected executive, as well as freedom of expression and alternative sources of information" (Lührmann & Lindberg, 2019, p. 1096).

Jee et al. (2022) contribute to the concept of polyarchy by expanding it and delving deeper into important aspects. This serves as a bridge across theoretical boundaries, enriching the understanding of democracy by addressing its contemporary complexities. As discussed earlier, Jee et al. (2022) suggest that democracies rely on three arenas of politics to safeguard three essential freedoms. The elect arena is responsible for safeguarding the freedom of choice, empowering citizens to endorse preferred policies and representatives. Simultaneously, the constrain arena preserves freedom from tyranny, relying on democratic institutions to curb the potential misuse of political power by representatives. Finally, and imperative for this research, the enable arena ensures equality in freedom, guaranteeing that all citizens possess equal claims to the first two freedoms (pp. 759–760). Within these three arenas, the authors argue that scholars often focus on the first two—related to electoral processes and governmental constraints—when conceptualizing democracy (p. 755). By adding the third proposed arena, enable, Jee et al. (2022) take into account the fact that all citizens within a democratic system must share an equality that safeguards the freedoms of choice and freedom from tyranny established by the first two arenas. This addition allows a modern idea of democracy by taking into account the role of forces that might undermine citizens decision-making abilities, providing a deeper understanding of alternative hindrances that were usually overlooked when assessing democratic backsliding.

Consequently, I argue that a democracy is defined as a dynamic system where citizens, empowered by clean elections and protected freedoms, engage in shaping policies and institutions, thus curbing potential abuses of power. Additionally, it recognizes the essential preservation of the three critical arenas of electoral processes, governmental constraints, and the promotion of equal citizenship (Jee et al., 2022). Following this perspective assists in comprehending and identifying contemporary challenges faced by democratic systems. As examined by this research, the presence

of online disinformation may undermine the existence of a shared body of reliable knowledge among citizens, leading to the erosion of fundamental aspects present within all the proposed arenas.

When Democracies Backslide

Scholarly concern over a global wave of democratic backsliding has spiked in the last decade (Jee et al., 2022, p. 762). Data indicates that since 2006, a discernible global trend towards democratic backsliding has emerged. Levels of freedom and democratic quality are diminishing, combined with an alarming acceleration in the breakdown of democracies and a decline in democratization processes (Diamond, 2021, p. 22; Waldner & Lust, 2018, p. 94). As a consequence, scholars have determinedly sought to define ways to measure and identify how democratic backsliding occurs. However, disagreements on what constitutes democratic backsliding lead to a polarized scenario. On one end, scholars argue that, despite evident challenges faced by democracies and grounds for worry, the overall level of democracy around the globe is near the highest ever recorded (Little & Meng, 2023, p. 28; Mechkova, Lührmann & Lindberg, 2017, p. 167). On the other end, an opposing viewpoint raises the debate on whether recent events indicate the emergence of a new wave of democratic backsliding (Diamond, 2021, pp. 29, 40; Druckman, 2023, p. 1; Lührmann & Lindberg, 2019, p. 1108). This disagreement seemingly stems “from inconsistencies in the measurement of democratic backsliding and the underlying conceptualization of democracy” (Jee et al., 2022, p. 755). Consequently, this study acknowledges that explicitly delineating a definition of democracy facilitates the efficient identification of potential causes and the specific democratic attributes at risk when backsliding is present. Following a different route could result in overlooking essential factors within this discussion (Jee et al., 2022, p. 755). Subsequently, a precise discussion over what constitutes democratic backsliding will set the foundation for an

important discussion about the possible impacts of online disinformation and the measurements used in this research.

Among the numerous definitions of what constitutes democratic backsliding, four are important to discuss when considering the scope of this research. Waldner and Lust (2018) propose a well-accepted definition of democratic backsliding, identifying it as the "deterioration of qualities associated with democratic governance, within any regime" (p. 95), emphasizing the gradual erosion of norms and institutions supporting democratic contestation and participation. Bermeo (2016) highlights that democratic backsliding can only be present within an existing democracy, defining it as a "state-led debilitation or elimination of any of the political institutions that sustain an existing democracy" (pp. 5–6). This factor highlighted by Bermeo (2016) leads other scholars to use autocratization as the preferred terminology, including the various ways and steps that democratic norms and institutions may regress until an autocracy is consolidated (Lührmann & Lindberg, 2019, p. 1099). Lührmann and Lindberg (2019, p. 1099) suggest that measuring democratic backsliding in any regime has the potential to be considered conceptual stretching. They claim that it is not possible for an autocratic country to undergo democratic backsliding towards a deeper dictatorship. Consequently, researchers investigating democratic backsliding can benefit from narrowing their scope to regimes classified as democracies, thus avoiding conceptual confusion. Such inconsistencies may contribute to the polarized setting in academic discussions analyzing the topic and lead to the variations present in the precision of measuring democratic backsliding (Jee et al., 2022, p. 2). Finally, I go back to the concept of the three freedoms that must be achieved in a democratic system, as proposed by Jee et al. (2022, p. 759). According to them, democratic backsliding is characterized by "any change of a political community's formal or informal rules which reduces that community's ability to guarantee the

freedom of choice, freedom from tyranny, or equality in freedom to citizens and groups of citizens" (p. 760).

These definitions, together with the proposed definition of democracy, contribute to the conceptualization of the dependent variable in this research, democratic backsliding. Shifting the focus solely to democratic regimes assists in overcoming potential inconsistencies present in the academic discussion surrounding the topic. Additionally, alternative definitions may center on actions initiated by the state, which, for instance, does not accurately capture the possibility of unofficial agents doing "off-book" work having the capacity to influence a democratic regime (Mechkova et al., 2022, p. 13). Considering the above, this research adapts the definition of democratic backsliding proposed by Jee et al. (2022), recognizing that democratic backsliding is characterized by any change in the norms and institutions safeguarding the citizens right to elect representatives, or in the mechanisms and rights to constrain the same representatives to not abuse their political powers, and in the citizens access to an equal footing in terms of their rights and claims to the democratic freedoms established by the first two rights.

Democratic Backsliding as a Global Threat

As discussed earlier, pairing the inconsistencies caused by the numerous avenues used to measure democratic backsliding with the underlying complexity of conceptualizing democracy contributes to a polarized body of literature on whether democratic backsliding is or is not a global threat. Among the most critical studies, Little and Meng (2023, p. 29) argue that the available evidence is not good enough to claim that democracy is declining globally. They assert that studies are at risk of utilizing systematically biased data when relying on expert-coded data such as the Electoral Democracy Index (EDI) from the Varieties of Democracy (V-Dem) dataset (Coppedge et al., 2023a; Mechkova et al., 2022). They emphasize that the media's focus on eroding democratic

norms contributes to coder perception variations over time, potentially distorting widely used indexes like the EDI. These variations in standards over time may cause indexes like the EDI to not account for these systematical biases as intended (Little and Meng, 2023, p. 9). This is crucial, as much of the literature identifying democratic backsliding as a global threat relies heavily on this specific index.

For example, using the EDI, Lührmann and Lindberg (2019, p. 1107) identify contemporary declines in democracy as a third wave of autocratization. Diamond (2021, p. 39) similarly asserts a significant and widespread retreat of freedom and democracy globally, especially in influential countries, stemming from a gradual decline that began fifteen years ago. Gora and de Wilde (2022) highlight that within the EU, the "deterioration in the quality of deliberation forms the essence of democratic backsliding" (p. 358). These examples illustrate that the issues highlighted by Little and Meng's (2023) may lead to the possibility of challenging the replicability and precision of such conclusions, leading to a disputed scenario on the perceived issue of democratic backsliding. However, these concerns were recently addressed by Knutsen et al. (2023, p. 36). While emphasizing the conceptualization, measurement, and data collection used by Little and Meng (2023), they find no compelling evidence of systematic biases in the V-Dem's expert-coded indicators that could impact the reliability of previous research that indicates the perceived global trend of democratic backsliding.

However, Little and Meng (2023, pp. 4, 28) highlight another factor that may impact the precision of the perceived wave of democratic backsliding. They emphasize the rise of leaders using subtle means to erode democratic norms, which may introduce bias, as commonly used subjective indicators tend to give more weight when detecting these subtle changes. By prioritizing objective indicators, they find that despite the change in strategies, there is minimal evidence

supporting the notion that backsliding is more prevalent, as indicated by other studies (Bermeo, 2016; Lührmann & Lindberg, 2019). Knutsen et al.'s (2023, pp. 12–13) response to this argument reveals that while detecting backsliding, relying on objective measures may not precisely capture its presence, as they usually focus on elections and the electoral process, leaving other important factors aside. They argue that a multitude of V-Dem measures have subjective indicators that can be used to complement objective measures, increasing precision and capturing different dimensions of democracy.

This discussion underscores the need to consider multiple factors when assessing democratic backsliding, as highlighted by Jee et al. (2022). In an era where undemocratic leaders have learned how to exploit formal democratic norms and institutions, a nuanced and sensitive measure necessitates the broad conceptualization of democracy present in this research (Knutsen et al., 2023, p. 12). Highlighting factors that may contribute to the erosion of the shared understanding of facts becomes increasingly relevant when assessing democratic backsliding and identifying subtle tactics used by leaders seeking to concentrate power. Therefore, a focus on the presence of online disinformation can enhance the understanding of how undemocratic leaders adapt their tactics to gradually undermine democratic norms and institutions (Bermeo, 2016, pp. 10–11; Lührmann & Lindberg, 2019, p. 1108). Notably, social media platforms facilitate the rapid and direct dissemination of information, reshaping communication dynamics between undemocratic leaders and their constituents, which could facilitate these new and more subtle tactics (Kydd, 2021, p. 11).

Democratic Backsliding and the Advent of Technology

In their early stages, social media platforms played a positive role by promoting a decentralized and democratic exchange of information. However, in recent times, the absence of reliable tools

to distinguish trustworthy sources from unreliable ones has heightened the vulnerability of social media users to the persuasive and deceptive tactics employed by those willing to concentrate power (Diamond, 2019). This issue is exacerbated by the contemporary shift, where traditional news outlets are no longer the primary source of information deemed reliable by the public. With 62% of Americans relying solely on social media platforms for news consumption in the 21st century, manipulative information is more likely to reach a broader audience (Tucker et al., 2017, p. 49).

Political psychology suggests that this dependence may present a challenge, given that the average citizen is unlikely to commit the necessary time and effort to acquire a comprehensive understanding of intricate political matters. When faced with a lack of direct understanding, individuals often turn to partisan cues, commonly found on social media, using them as heuristics for quick decision-making shortcuts. This reliance on shortcuts can be problematic, leading to inaccurate understandings of policy outcomes and benefits (Chong, 2013, pp. 96, 102). The challenge lies in the potential for manipulation by political elites, as they might leverage their positions to influence how political information is received by the public, possibly compromising citizens rights and undermining democratic norms and institutions (Druckman, 2001, p. 233). Moreover, the increasing prevalence of online disinformation as a strategic tool provides political elites with the means to distort and shape citizens perceptions of political issues and the functioning of democratic institutions (Flynn et al., 2017, p. 143). And as articulated by Ladd and Lenz (2009, p. 395), democratic stability is deeply reliant on the intentions of political elites, further emphasizing the potential impact of their manipulation through the strategic use of online disinformation.

Online Disinformation as a Factor

In contemporary society, social media platforms serve as gateways for information that aligns with the preferences of political elites. The dissemination of persuasive, false, or misleading messages through these platforms has the potential to become widespread, posing a threat to democratic stability and the shared understanding of facts. This phenomenon undermines the reliability of information and challenges the foundation of informed public discourse, a crucial factor for democratic regimes (Flynn et al., 2017, p. 143; Jee et al., 2022, p. 761; Ladd & Lenz, 2009; Lewandowski et al., 2023, p. 1). For purposes of this research, online disinformation is defined as the deliberate strategic dissemination of false or misleading information by elites with the intent to deceive their own population, consequently distorting the shared understanding of facts crucial for democratic regimes (Guess & Lyons, 2020, p. 10; Hernon, 1995, p. 134; Jee et al., 2022, p. 755; Rossini, Mont'Alverne & Kalogeropoulos, 2023, p. 2).

Recent studies have investigated the impact of political elite's discourse, with a specific focus on figures such as former U.S. President Donald Trump, on shaping public perceptions. The findings suggest that exposure to such rhetoric has the potential to erode trust in the electoral system among supporters, potentially leading to a decline in support for vital democratic norms and institutions (Arceneaux & Truex, 2023; Clayton et al., 2021, p. 2). Furthermore, additional studies have explored social media algorithms influence, identifying them as contributors to the dissemination of content aligned with a user's pre-existing preferences, irrespective of its veracity or context (Huszár et al., 2021, p. 1; Kydd, 2021, p. 11). Social media algorithms have faced persistent criticism for creating echo chambers and fostering selective exposure (Kydd, 2021, p. 11; Messing & Westwood, 2014, p. 1058). However, a cross-country study challenges this view, revealing that only a minority of users inhabit these echo chambers (Fletcher, Robertson, &

Nielsen, 2021, p. 3). Another study supports this notion but advises caution, suggesting that social media's role in circulating emotionally charged messages or signaling identity affiliations may also contribute to selective exposure, motivational reasoning, and opinion polarization (McKay & Tenove, 2021, pp. 705, 709).

Expanding on this discussion, data reveals that political elites around the globe are strategically investing in emerging technologies, such as automated bots, to disseminate disinformation more effectively on social media, exploiting algorithms for greater reach and influence (Bradshaw & Howard, 2018, pp. 24, 28). In light of these developments, scholars stress the importance of understanding the potential impacts of elite's usage of online disinformation on democratic regimes, taking into account the evolving nature of technology (p. 30). While analyzing over 100 articles about democratic backsliding, researchers found that only 25% accounted for matters that can erode a shared understanding of facts, such as online disinformation (Jee et al., 2022, p. 755). Additionally, as argued before, the literature on online disinformation and democratic erosion is either U.S.-centric (Clayton et al., 2021; Guess & Lyons, 2020; Lewandowsky et al., 2023; McKay & Tenove, 2021) or has a focus on a selected group of countries (Bünte, 2020; Tucker et al., 2017). This highlights the argument from Guess and Lyons (2020) that "studies of misinformation effects in the rest of the world are also lacking" (p. 26). While considering the aforementioned issues and the fact that democratic stability is highly reliant on the desires of political elites (Ladd & Lenz, 2009, p. 395), I suggest that it is vital to understand whether online disinformation is one of the factors contributing to the global trend of democratic backsliding. Consequently, the following hypothesis is formed:

H = An increase in the presence of online disinformation is associated with more democratic backsliding

While testing this hypothesis with a sample of 117 countries, I expect and argue that the proposed conceptualization of democracy is negatively affected by the presence of online disinformation, leading to democratic backsliding. Online disinformation challenges the dynamics of a democratic system by influencing citizens access to clean information, consequently affecting their ability to make informed decisions and possibly compromising the integrity of electoral processes. Additionally, the distortion of information can hinder the public's capacity to hold leaders accountable and participate meaningfully in shaping policies and institutions, thereby eroding the constraint mechanisms that are vital to an effective democratic regime. Online disinformation erodes the promotion of equal citizenship by distorting shared knowledge, fostering a fragmented information landscape that erodes the shared understanding of facts, and hindering citizens ability to engage in informed deliberation. Ultimately, I argue that elite's usage of online disinformation is one of the factors contributing to the perceived global trend of democratic backsliding.

Research Design

Following the preceding theoretical considerations, this study establishes a foundation for the formulation of the statistical model necessary for hypothesis testing. A comprehensive approach is crucial to understanding whether online disinformation is a potential contributor to a worldwide trend of democratic backsliding. The scope of previous work examining this relationship has produced only a partial understanding of its consequences. Consequently, I propose a broader analysis that assesses this relationship in 117 countries over a decade.

Data

When exploring datasets and variables that align with this research's proposition, the Varieties of Democracy (V-Dem) dataset and its subset, the Digital Society Survey, are the best fit to employ

a cross-national observational analysis and test the proposed hypothesis using a multiple linear regression (Coppedge et al., 2023a; Mechkova et al., 2022). To assess the impact of online disinformation on the backsliding of democracies, it is necessary to include a temporal element. This approach facilitates an examination of how online disinformation may impact changes in the Electoral Democracy Index, providing insights into the potential characteristics of democratic backsliding over the specified time frame. Moreover, assessing democratic backsliding commonly involves examining it over extended periods, typically spanning 5 or 10 years (Jee et al., 2022, p. 757). Given the previously noted period of backsliding from 2012 to 2022, I utilize this timeframe to test the hypothesis, leveraging the temporal information present in the data (Druckman, 2023, p. 1).

The V-Dem dataset stands out by adopting a unique methodology to measure and conceptualize democracy, establishing it as one of the most commonly used data sets in the academic domain. The adopted methodology addresses the complexities of measuring democracy by integrating 23 indicators, providing a measurement aligned with the core requirements within Dahl's conceptualization (Lührmann & Lindberg, 2019, p. 1100; Mechkova, Lührmann & Lindberg, 2017, p. 166). Country experts are assigned the responsibility of completing surveys used to code indicators of democracy. Subsequently, they aggregate the coded indicators into subcomponents using Bayesian factor analysis. For example, the variable used as the dependent variable of this research, the Electoral Democracy Index (EDI), consists of five subcomponents that are built from several indicators, capturing the core requirements of Dahl's polyarchy more precisely (Coppedge et al., 2023b, pp. 6–7). Furthermore, the Digital Society Survey, a subset of V-Dem, employs the same methodology to assess the political environment of the internet and social media through expert-coded surveys (Mechkova et al., 2022). According to Jee et al. (2022,

p. 762), utilizing the Digital Society Survey can aid in capturing issues that impact the shared understanding of facts, which is crucial for democracy as previously explained. Consequently, it emerges as a valuable resource for projects analyzing various issues, including online disinformation, serving as a tool for understanding possible relations between democratic norms and institutions and social media platforms (Digital Society Project, 2023).

Dependent Variable

Democratic backsliding is understood as any change in the norms and institutions safeguarding citizens rights to elect representatives, constrain political powers, and access to equal footing in accessing these democratic rights. According to Jee et al. (2022, p. 762), the Electoral Democracy Index (EDI) is a valuable benchmark to capture changes in factors intrinsic to the rights to elect representatives and to the mechanisms constraining political powers. They emphasize that these factors closely align with Dahl's (1971) concept of polyarchy, measured by the EDI to evaluate the extent to which regimes worldwide fulfil its core conditions.

Recognized for its precision and holistic approach, the EDI is widely utilized as a benchmark in studies assessing democratic backsliding (Bünte, 2021; Diamond, 2021; Gora & de Wilde, 2022; Lührmann & Lindberg, 2019). When assessing democratic backsliding with the EDI, researchers concentrate on the index's development over time, particularly emphasizing negative changes (Jee et al., 2022, p. 757). Knutsen et al. (2023, p. 6) highlight that utilizing longer periods, such as 10 years, can enhance the precision of measuring democratic backsliding while using the EDI.

Furthermore, devoting attention to the scope of countries eligible for backsliding is imperative to avoid conceptual stretching while measuring backsliding. As mentioned earlier, researchers delving into democratic backsliding may find it advantageous to focus on regimes

classified as democracies (Knutsen et al., 2023, p. 6; Lührmann & Lindberg, 2019, p. 1099). Nevertheless, this prompts a crucial question: when dealing with the EDI's continuous nature ranging from 0 to 1, how can one determine the appropriate cutoff point for classifying countries as democratic? Nakai (2023, p. 4) highlights that many studies face challenges in establishing a consistent cutoff due to the lack of a theoretical or empirical basis. Addressing this concern, he suggests that the 0.39 cutoff aligns with previous studies based on the conceptual foundations of democracy, providing a consistent level for analysis. Consequently, the EDI score utilized is filtered, deleting all scores under 0.39 as they do not meet the criteria required for classification as democratic. In addition to this filtering process, other modifications are implemented to the EDI score, ensuring a precise analysis of democratic backsliding. To capture the difference across the proposed time frame, the scores from 2012 are subtracted from the scores in 2022. This creates a new variable representing the change in the EDI scores over the specified period. Subsequently, the new variable is recoded to a continuous scale from 0 to 1, where higher values now specifically signify a higher presence of democratic backsliding, while lower values indicate a lower presence over the specified period.

Independent Variable

As previously established, online disinformation refers to the deliberate and strategic spread of false or misleading information by elites to deceive their own population and disrupt the shared understanding of facts crucial for democratic regimes. It is identified as a factor eroding citizens rights to elect representatives, influencing political debates, and undermining trust in the electoral process (Clayton et al., 2021, p. 2; Flynn et al., 2017, p. 143). Additionally, it hinders the public's ability to hold leaders accountable and participate in shaping policies and institutions,

compromising vital mechanisms such as the role of institutions like Supreme Courts in providing checks and balances (Rossini, Mont'Alverne & Kalogeropoulos, 2023, pp. 2–3).

Online disinformation is operationalized using the "government dissemination of false information domestic" variable from the Digital Society Survey dataset (Mechkova et al., 2022). The congruence between this variable and the proposed definition of online disinformation comes from the following survey question: "How often do the government and its agents use social media to disseminate misleading viewpoints or false information to influence its own population?" (p. 14). This variable considers a broad spectrum of actors beyond conventional official government organs, encompassing both official entities like bureaucracies, courts, intelligence services, and the military. This inclusive definition also recognizes the involvement of officially unaffiliated cyber-warfare operatives who may engage in "off-book" work on behalf of the government (p. 13). This expanded perspective aligns with the modern context where elites are deliberately and strategically investing in tactics to disseminate online disinformation more effectively (Bradshaw & Howard, 2018, pp. 24, 28).

To align with the employed model, the independent variable undergoes the same treatment as the dependent variable to capture the difference across the proposed time frame. This involves subtracting the scores from 2012 from those in 2022, thereby generating a new variable that signifies the change in the original scores over the specified period. Following this, the newly formed variable, termed online disinformation, is recoded to a continuous scale of 0 to 1, where higher values now specifically signify a higher presence of online disinformation, while lower values indicate a lower presence over the specified period.

Model

To investigate the proposed hypothesis that an increase in the presence of online disinformation is associated with more democratic backsliding, a multiple linear regression model is employed. This allows a distinctive approach to assessing the proposed relationship through a cross-national observational analysis on a global scale (N = 117). Furthermore, all the multiple linear regression assumptions were met after a thorough investigation, see Appendix A. Nevertheless, additional tests were necessary to ensure that the influence of outliers and influential cases did not compromise the results, as further elaborated in the analysis section.

The selection of a multiple linear regression model is justified by multiple factors, including its capacity to accommodate the continuous nature of the dependent and independent variables. This choice aligns with the assumption of linearity, indicating that incremental changes in the presence of online disinformation proportionally correspond to changes in democratic backsliding. Importantly, the model adeptly accommodates the temporal element crucial for evaluating the proposed relationship, enabling an assessment of how changes in online disinformation correspond with changes in democratic backsliding over time without adding too much complexity. Moreover, the chosen model facilitates the inclusion of control variables, thereby enhancing the research's internal validity and reducing bias in the model. Four factors were identified as possible confounds that needed to be accounted for, see Appendix B for detailed information on measurement and coding procedures. Online media perspectives address the influence of government control over perspectives on social media platforms. This is exemplified by state-sponsored trolling campaigns and biased content moderation that tends to favor elites, potentially impacting democracy as well (Persily & Tucker, 2020, pp. 73, 93). Civil society participation captures how robust civil society is, using it as a control variable considers that

weaknesses in civil society can provide opportunities for undemocratic leaders to undermine democratic institutions, and also that social media and online disinformation can be used for the advantage or disadvantage of civil societies (Bünte, 2021, pp. 204–205; Diamond, 2021, p. 33). Political corruption accounts for situations where voter behaviour is influenced by disinformation. It recognizes that voters may reject credible information about a candidate's corrupt behaviour or accept disinformation about their integrity. Such dynamics can result in the election of candidates who violate laws or adopt measures that may lead to democratic erosion (Druckman, 2023, p. 21). Finally, utilizing the deliberative principle of democracy as a control variable is inspired by Gora and de Wilde's (2022, pp. 356–357) emphasis on how elite's discourse may impact democracy and the quality of deliberation, especially in scenarios where competing political elites challenge each other. This highlights not only a possible effect on democracy but also the possible use of online disinformation in such circumstances. It is noteworthy that the first control variable originates from the Digital Society Survey, while the subsequent tree is derived from the V-Dem dataset (Coppedge et al., 2023a; Mechkova et al., 2022).

Results

The hypothesis proposed in this research states that an increase in the presence of online disinformation is associated with more democratic backsliding. Testing this hypothesis, the results of the two linear regression models are presented in Table 1. In Model 1, democratic backsliding is regressed solely on online disinformation. Subsequently, Model 2 takes into consideration additional variables, including online media perspectives ($p < 0.001$), civil society participation ($p < 0.001$), political corruption ($p < 0.01$), and the deliberative principle of democracy ($p < 0.001$).

With Model 1, I find that a one-point increase in the level of online disinformation relates to a 0.572 [95% CI: 0.391, 0.754] increase in democratic backsliding, the results are statistically

significant ($p < 0.001$). When accessing Model 2, a similar and positive relationship is found while controlling for online media perspectives, civil society participation, political corruption, and the deliberative principle of democracy. With all the other variables held constant, democratic backsliding is expected to increase as online disinformation increases. Based on Model 2, I expect democratic backsliding to increase by 0.172 scale points [95% CI: 0.006, 0.338] on average with each unit increase in online disinformation. These results are also statistically significant ($p < 0.01$).

Table 1. Summary of model 1 and model 2

	Model 1	**Model 2**
(Intercept)	0.145*** (0.048)	0.732*** (0.091)
Online Disinformation	0.572*** (0.091)	0.172** (0.083)
Online Media Perspectives		-0.226*** (0.056)
Civil Society Participation		-0.260*** (0.071)
Political Corruption		0.100 ** (0.050)
Deliberative Component of Democracy		-0.325*** (0.086)
R^2	0.254	0.591
Adj. R^2	0.250	0.573
N	117	117

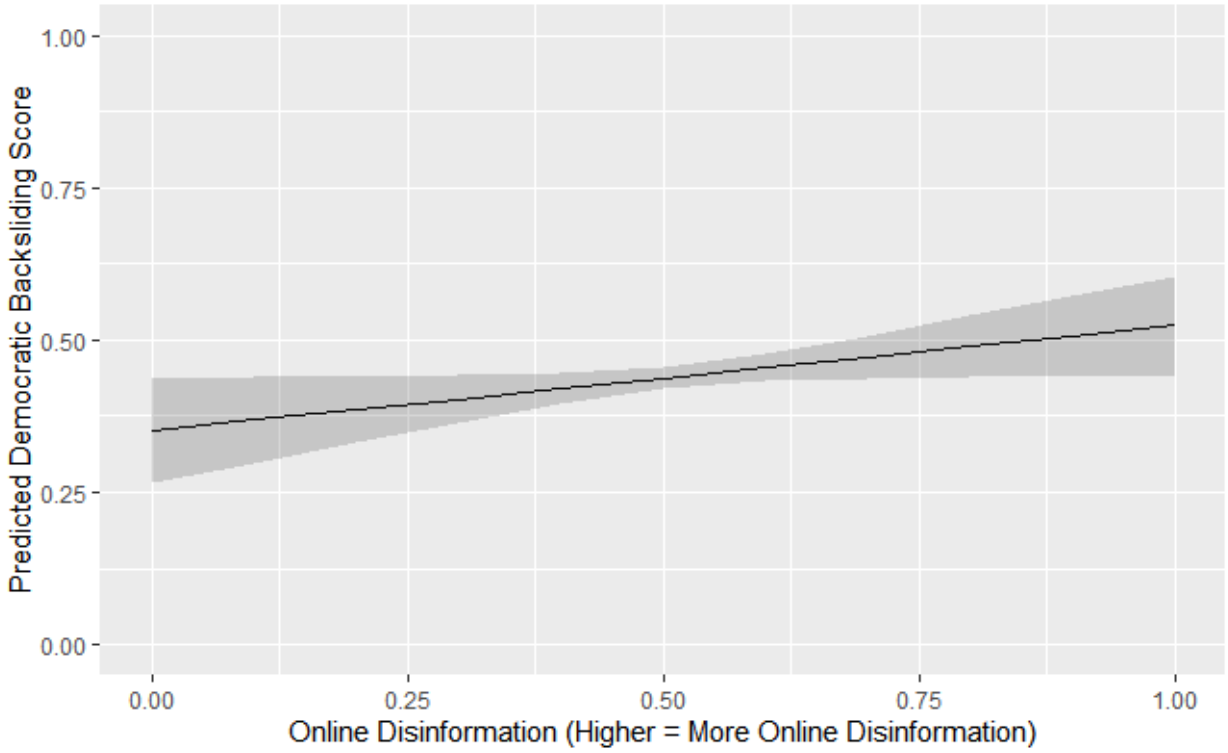
Note: OLS coefficients with standard errors in parentheses
***p < 0.001, **p < 0.01, *p < 0.05

The R^2 value in Model 2 ($R^2 = 0.591$) indicates that approximately 59.1% of the variability in democratic backsliding can be explained by the combination of online

disinformation, online media perspectives, civil society participation, political corruption, and the deliberative component of democracy. While this suggests substantial explanatory power, it is important to acknowledge that there are other factors not accounted for in our model that may influence democratic backsliding.

To better understand Model 2 and its results, I procced to estimate the predicted value of democratic backsliding when a country's level of online disinformation is at the minimum of zero and when a country's level of online disinformation is at the maximum of one. This is done while holding all other variables constant at the mean level of 0.458 for online media perspectives, 0.476 for civil society participation, 0.659 for political corruption, and 0.678 for the deliberative component of democracy. As demonstrated in Figure 1, the results highlight that countries with

Figure 1. Predicted Values of Democratic Backsliding when considering Online Disinformation



the lowest level of online disinformation also present a lower level of democratic backsliding, scoring 0.351 on the scale [95% CI: 0.265, 0.438]. While countries with the highest level of online

disinformation present also higher levels of democratic backsliding, scoring 0.524 on the scale [95% CI: 0.442, 0.605]. When calculating the difference between the predicted values, I find that countries with the highest scores in online disinformation experienced a 17.3% increase in predicted democratic backsliding scores on the 0 to 1 scale, compared to countries with the highest scores. This substantial effect goes beyond the statistical significance presented in Model 2, underscoring the relevance of online disinformation as a contributing factor to democratic backsliding. Furthermore, the consistency of these results, when controlling for other influential variables such as online media perspectives, civil society participation, political corruption, and the deliberative component of democracy, strengthens the model and enhances the internal validity of this research. With all assumptions of linear regression met as shown in Appendix A, the positive relationship established between online disinformation and democratic backsliding, observed in this analysis of 117 countries, adds depth to the discourse on safeguarding democracy norms and institutions in an era marked by evolving information landscapes and social media usage.

Conclusion

This research critically examines the relationship between online disinformation and democratic backsliding within the context of an evolving information landscape shaped by social media platforms. While the existing literature extensively explores the concerning global trend of democratic backsliding (Diamond, 2021, pp. 29, 40; Druckman, 2023, p. 1; Lührmann & Lindberg, 2019, p. 1108), the analysis of online disinformation as a catalyst for democratic erosion often remains confined to the examination of individual countries or a selectively chosen group. (Bünte, 2020; Clayton et al., 2021; Guess & Lyons, 2020; Lewandowsky et al., 2023; McKay & Tenove, 2021; Tucker et al., 2017). This specific focus narrows the comprehension of whether the presence

of online disinformation contributes to democratic backsliding on a global scale. Consequently, this study serves as an answer to Guess and Lyons's (2020, p. 26) call for a study of the effects of online disinformation across the world. Utilizing data from 2012 to 2022 covering 117 countries, the analysis provides valuable insights into the threats that online disinformation poses to democratic regimes. Furthermore, I proposed the hypothesis that an increase in the presence of online disinformation is associated with more democratic backsliding, and by conducting this study utilizing data from the Democracy (V-Dem) dataset and its subset, the Digital Society Survey (Coppedge et al., 2023a; Mechkova et al., 2022), I find significant support in favor of the hypothesis, as countries with the highest scores in online disinformation experienced a 17.3% increase in predicted democratic backsliding scores on the scale, holding all other variables constant at the mean level.

While this study contributes valuable insights into the relationship between online disinformation and democratic backsliding, several limitations warrant consideration. One notable limitation is the narrow focus on government-driven disinformation, which neglects the broader landscape shaped by other actors unrelated to the government, such as online news media and social media trolls. This benchmark might not capture the full spectrum of disinformation sources, potentially limiting the comprehensive understanding of the phenomenon. Future research could address this limitation by adopting a more inclusive approach that considers other variables related to online disinformation as their independent variables, thereby providing a more nuanced and holistic perspective. This refinement may enhance the generalizability and applicability of the findings, contributing to a more comprehensive understanding of the relationship between online disinformation and democratic backsliding.

Furthermore, it is important to recognize a limitation related to the inclusion of control variables. While the inclusion of control variables in Model 2 is valuable and has a considerable impact when compared to Model 1, the selection might not comprehensively capture all relevant factors influencing democratic backsliding, leading to an incomplete understanding. Future research in this area should consider a more exhaustive set of control variables that account for various socio-political, economic, and cultural factors that may contribute to democratic backsliding. Factors such as the presence of populist leaders may also have a relevant role. Unfortunately, due to feasibility, it was not possible to account for this factor given the nature and complexity of the variables used to measure it.

Using a more complex statistical model could also assist in the precision of accounting for the variation of the proposed relationship over time. The adopted model measures the variation of the dependent variable difference on the variation of the independent variable difference, introducing a degree of ambiguity regarding the precise direction of the relationship. Although the results of this study present a robust association and the theory section emphasizes the direction of the relationship, the inherent limitations of this methodological choice could potentially hide aspects clarifying the direction of the relationship. To mitigate this concern, future research could consider alternative methods avoided here due to the degree of complexity. A time-series analysis may be well suited to identify different patterns and effects overlooked in the approach adopted in this research. This methodological shift would not only address the ambiguity associated with the current approach but also contribute to a more sophisticated understanding of the temporal dynamics at play.

In conclusion, despite these acknowledged limitations, this study has demonstrated a substantial and statistically significant association between online disinformation and democratic

backsliding. The findings contribute valuable insights into the global landscape of democratic erosion, highlighting the potential role of online disinformation as a contributing factor and complementing the existing literature. The fast-changing nature of technology, coupled with the intricate challenges tied to social media platforms designs, demands continuous scholarly and governmental attention to comprehend the evolving threat posed by online disinformation. Consequently, future research should investigate further how different actors worldwide are exploiting the structural vulnerabilities of social media platforms to concentrate political power and erode democracy. Furthermore, aligning with the perspective put forth by McKay and Tenove (2021, pp. 704, 713), I contend that strategies to counter online disinformation should prioritize addressing structural vulnerabilities inherent in social media platforms, with policies adopted by the platforms and by governments. Through fortifying these vulnerabilities with carefully crafted policies, we collectively strive to safeguard a democratic online environment, which is becoming increasingly crucial for a resilient and informed democratic society.

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Appendix A

OLS Assumption: Independent errors

- D-W Statistic model 2 = 1.951

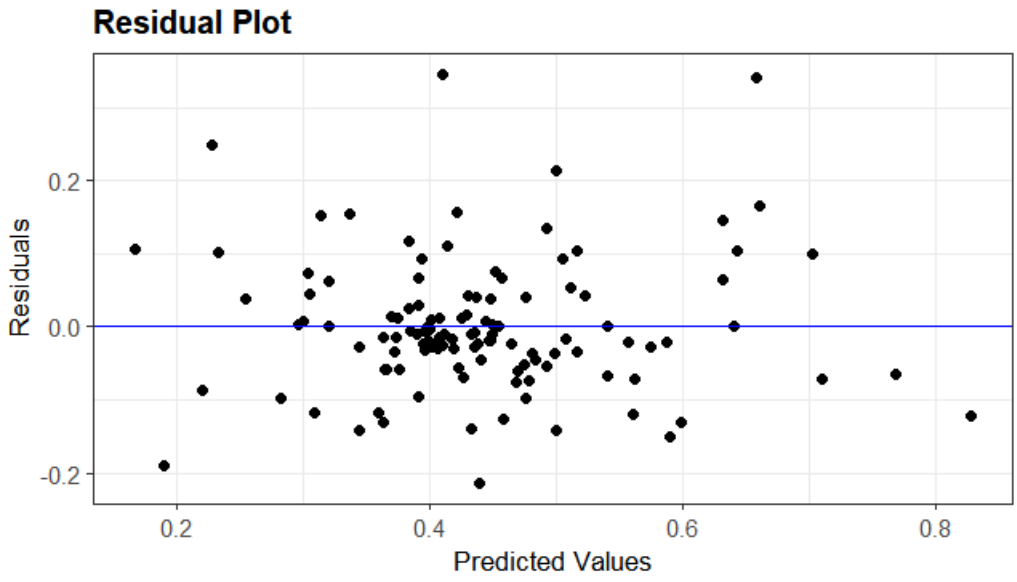
This assumption is met as only values below 1 and above 3 indicate too much autocorrelation.

OLS Assumption: No Excessive Multicollinearity

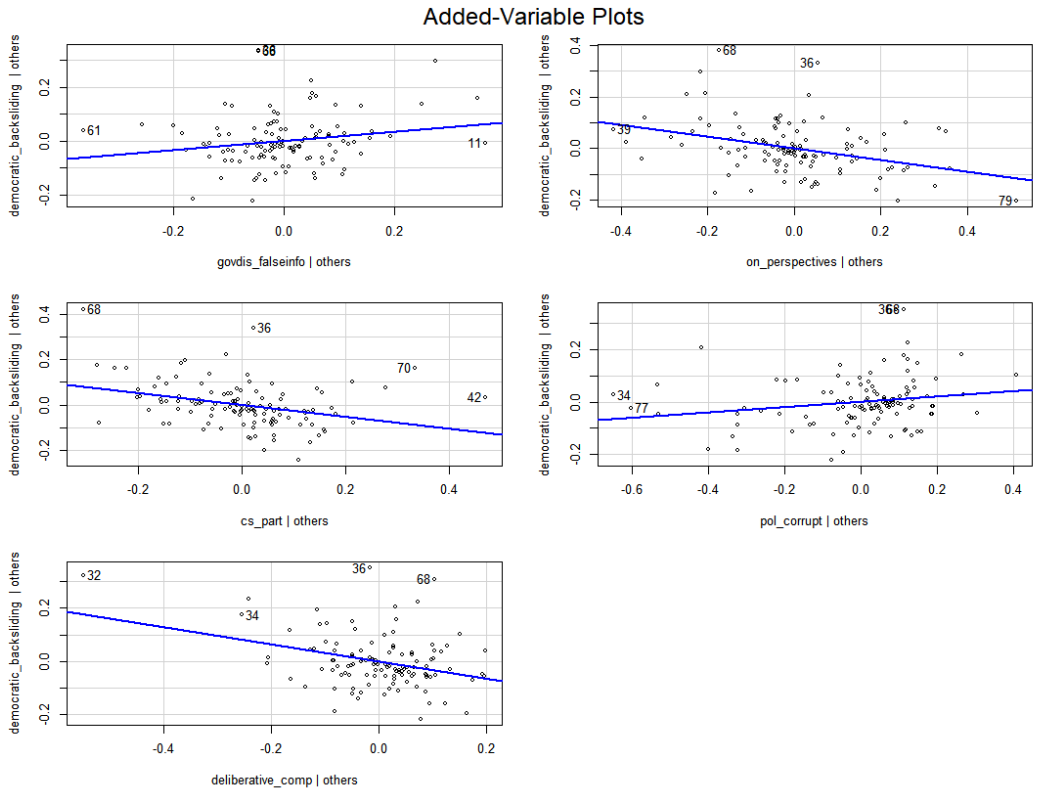
- VIF Online Media Perspectives = 1.091
- VIF Civil Society Participation = 1.629
- VIF Political Corruption = 1.161
- VIF Deliberative Component of Democracy = 1.9

This assumption is met as there is no multicollinearity, as each variable had no values substantially higher than 1.

OLS Assumption: Linearity and Additivity

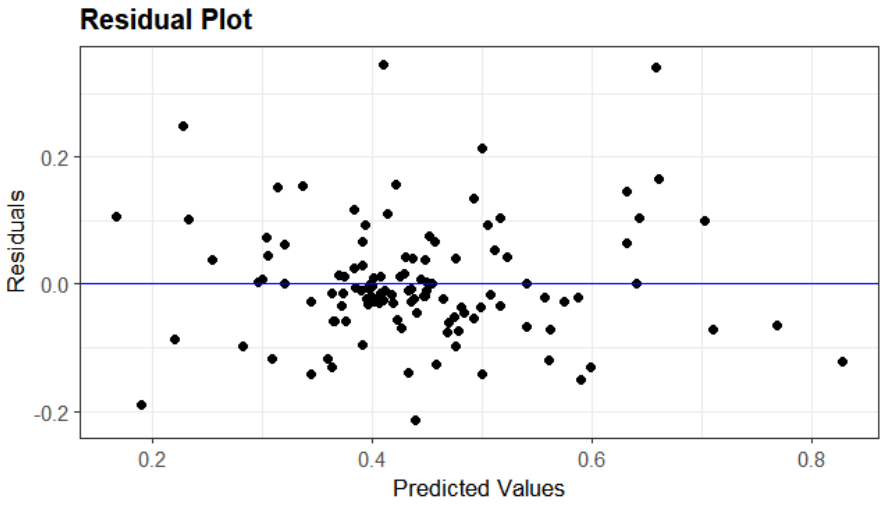


No clear pattern is noticeable on the Residual Plot. This assumption is met as there is mostly a random cloud of dots.



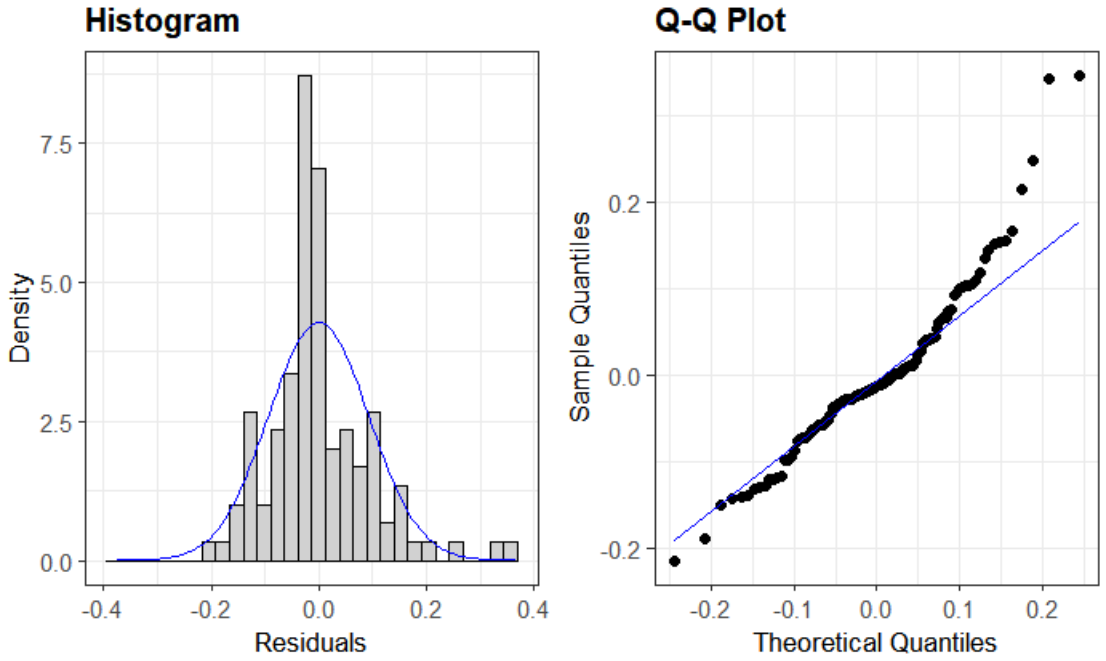
The Added-Variables plot discloses that all lines within the model are steep, as a result of the coefficients being significant. This assumption is met as there is no pattern in any of the plots and points are mostly scattered evenly around the lines.

OLS Assumption: Homoskedasticity



No clear pattern is noticeable on the Residual Plot, consequently, this assumption is met as no heteroskedasticity is present.

OLS Assumption: Normally distributed errors



Despite a deviation on the top part of the Q-Q plot the points generally follow and are close to the normality line. And following Field, Miles and Field (2012, p. 298), if the histogram looks like a normal distribution, there is no reason for concern. Consequently, this assumption is not violated.

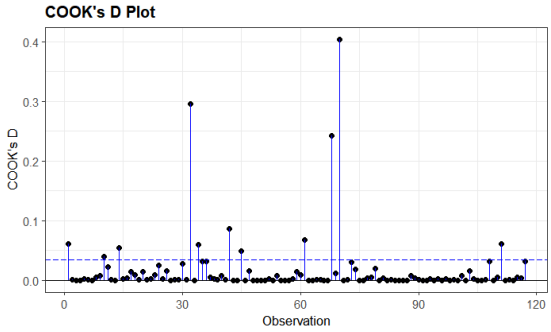
OLS Assumption: Limited impact of outliers and influential cases

There was reason for concern about this assumption being violated, consequently, different tests were necessary. The data presents 5.1% of cases with a standardized residual higher than 1.96 in absolute value, more than 1% higher than 2.58, and two cases higher than 3.29. Consequently, testing if these outliers has influence in the data is imperative. Following, a table representing Model 2 from the analysis and a Model excluding all values above 1.96 is presented:

	Model with no SRE 1.96	**Model 2**
(Intercept)	0.781*** (0.072)	0.732*** (0.091)
Online Disinformation	0.098 (0.068)	0.172** (0.083)
Online Media Perspectives	-0.214*** (0.045)	-0.226*** (0.056)
Civil Society Participation	-0.229*** (0.060)	-0.260*** (0.071)
Political Corruption	0.095** (0.040)	0.100 ** (0.050)
Deliberative Component of Democracy	-0.374*** (0.068)	-0.325*** (0.086)
R^2	0.674	0.591
Adj. R^2	0.658	0.573
N	111	117

Note: OLS coefficients with standard errors in parentheses
***p < 0.001, **p < 0.01, *p < 0.05

Not much change can be noticed in the coefficients. The only fact that could be problematic is that online disinformation turned into non-statistically significant. Consequently, I proceeded to analyze the cooks distance to understand this a bit better.



As noticed in the Cook's D Plot, no variables are above 1 nor above 0.5, however, three of them deviate from the rest. Consequently, I ran another model as seen on the following table excluding every Cook's D value above 0.2, resulting in a N = 114.

	Model with no Cook's > 0.2	**Model 2**
(Intercept)	0.708***	0.732***
	(0.087)	(0.091)
Online Disinformation	0.137*	0.172**
	(0.079)	(0.083)
Online Media Perspectives	-0.204***	-0.226***
	(0.054)	(0.056)
Civil Society Participation	-0.276***	-0.260***
	(0.070)	(0.071)
Political Corruption	0.123***	0.100 **
	(0.046)	(0.050)
Deliberative Component	-0.297***	-0.325***
	(0.093)	(0.086)
R^2	0.608	0.591
Adj. R^2	0.590	0.573
N	114	117

Note: OLS coefficients with standard errors in parentheses ***p < 0.001, **p < 0.01, *p < 0.05

With the results above presenting basically no change and a statistically significant online disinformation, this assumption is also not violated. Additionally, Field, Miles and Field (2012) argues that only a "value above 1 indicates a case that might be influencing the model (pp. 290-291).

Appendix B

Measurement and Coding Procedures from Control Variables

All the control variables were subtracted from its original scores from 2012 from those in 2022 to account for the difference over time like in the IV and DV.

- Online Media Perspectives
    - Address the influence of government control over perspectives on social media platforms.
    - **Coding**
        - The new variable that was formed was rescaled to a continuous scale that goes from 0 to 1, with 1 accounting for more online perspectives, meaning less government control, and 0 the opposite.
- Civil Society Participation
    - Captures how robust and involved a civil society is.
    - **Coding**
        - The new variable that was formed was rescaled to a continuous scale that goes from 0 to 1, with 1 accounting for a civil society that is engaged and effective, and 0 the opposite.
- Political Corruption

- Indicates how pervasive political corruption is.
- **Coding**
  - The new variable that was formed was rescaled to a continuous scale that goes from 0 to 1, with 1 accounting for more corruption in politics, and 0 the opposite.

- Deliberative Component of Democracy
  - Accounts up to each extent the deliberative principle of democracy achieved.
  - **Coding**
    - The new variable that was formed was rescaled to a continuous scale that goes from 0 to 1, with 1 accounting a higher presence of deliberative components of democracy, and 0 the opposite.