



**UNDERSTANDING THE SECOND-LEVEL DIGITAL DIVIDE IN NIGERIA:
A MULTIDIMENSIONAL ANALYSIS OF SOCIAL MEDIA ENGAGEMENT**

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Abstract

This study examines the second-level digital divide in Nigeria by exploring how socioeconomic, demographic, and personality factors influence patterns of social media engagement beyond mere access. Using regression analysis and descriptive statistics, the research uncovers complex relationships between age, gender, education, income, and personality traits with distinct types of social media use, including entertainment, social connection, informational, political, and utilitarian purposes. Notably, a “reverse divide” emerges where lower-income Nigerians engage more intensively in informational use than their higher-income counterparts, highlighting adaptive compensatory behaviors amid resource constraints. Findings reveal that digital inequality is a dynamic interplay of economic necessity, individual agency, and contextual factors, calling for nuanced digital inclusion policies that emphasize tailored literacy programs, gender-sensitive approaches, affordable access, and relevant content to foster inclusive economic empowerment in Nigeria.

Keywords: *Second-level digital divide, Social media engagement, Digital inclusion policy, Socioeconomic factors, Digital literacy*

JEL Codes: O33, D83, L86, J16, C21

1. Introduction

The concept of the digital divide has evolved significantly from a simple dichotomy of internet access versus non-access to a more complex framework that highlights disparities in digital skills, engagement patterns, and outcomes. With increasing global connectivity, particularly

through mobile technologies and expanding ICT infrastructure, the scholarly focus has shifted from mere access to how people utilize digital tools once connected (van Deursen & Helsper, 2020; Robinson et al., 2020). This shift, often referred to as the “second-level digital divide,” emphasizes that access alone does not guarantee meaningful or equitable digital participation. Variations in frequency, purpose, and sophistication of online engagement are now central to understanding how digital inequalities are reproduced across social contexts (Scheerder, Van Deursen, & Van Dijk, 2021).

In the Nigerian context, where internet penetration has grown rapidly in recent years questions of digital inequality have become increasingly salient. Nigeria’s digital landscape reflects deep structural disparities rooted in socioeconomic status, education, gender, and urban–rural divides. These disparities are often mirrored in the ways Nigerians engage with digital platforms, particularly social media. As access broadens, the challenge is no longer only about getting people online but ensuring that their digital engagement translates into informational empowerment, economic opportunity, and civic participation.

Social media, in particular, has become a vital arena for communication, identity construction, and access to information in Nigeria. Unlike traditional media channels, which are often state-dominated and one-directional, social media platforms are dynamic, participatory, and user-driven. They allow individuals to express opinions, form communities, and mobilize around issues ranging from politics to pop culture. Yet, social media engagement in Nigeria is far from uniform. Users vary widely in how and why they engage - some using it primarily for entertainment or personal communication, others for political activism, business, or information-seeking. These usage patterns often reflect users’ social positioning, motivations, and levels of digital literacy (Blank, Graham, & Calvino, 2021; Papacharissi, 2022).

Understanding these differences is particularly important in a country like Nigeria, which combines democratic features with persistent institutional weaknesses, uneven media freedoms, and stark economic inequalities. In such settings, digital participation is not merely a function of individual preference or technological availability, but is shaped by broader sociopolitical and psychological dynamics. Contemporary research increasingly acknowledges the role of both structural variables (e.g., age, education, income) and individual psychological traits in explaining variations in online behavior. Traits like openness and extraversion are often linked to exploratory and expressive social media use, while conscientiousness and neuroticism may predict more cautious or regulated digital activity (Marino et al., 2021; Sindermann, Elhai, & Montag, 2022). These frameworks offer a richer understanding of digital inequality, highlighting that behavior is co-constructed by social context and personality.

However, most empirical evidence on digital usage divides is derived from Western liberal democracies with relatively open media ecosystems. Far less is known about how these divides manifest in hybrid regimes like Nigeria, where infrastructural limitations, political risk, and regional conflict may significantly influence digital engagement. Nigerian internet users often navigate a fraught digital terrain - marked by surveillance concerns, disinformation, content moderation challenges, and uneven digital literacy. These constraints can shape not just who engages with digital platforms, but how and why they do so.

This study addresses these gaps by offering an empirical analysis of social media usage divides in Nigeria - a populous, digitally expanding, but socioeconomically stratified country. Drawing on survey data from a nationally diverse sample of 50 respondents, the study classifies and explains six major types of social media use: informational, entertainment, social connection, political, self-presentation, and utilitarian. By integrating both demographic indicators and personality traits into the analysis, the research offers a multidimensional account of what drives differentiated patterns of social media engagement in Nigeria.

As expected, the findings reaffirm some global patterns: younger Nigerians tend to be more active and diversified in their social media use, while men and more educated individuals often engage more instrumentally or expressively. However, the study also reveals “reverse divides” - instances where older or lower-income users are more likely to engage with mainstream informational content, particularly in regions where traditional media are inaccessible or distrusted. These findings challenge linear narratives of digital disadvantage and suggest that under specific contextual pressures, marginalized users can exhibit adaptive and strategic digital behaviors.

2. Empirical Literature

Demographic Inequalities in Social Media Usage

Empirical studies have consistently shown that age, gender, education, and income significantly shape how individuals use social media. Age, in particular, is a robust predictor: younger users are more likely to engage in entertainment, self-expression, and networking, while older users tend toward informational and utilitarian uses (Friemel, 2016; Blank et al., 2021; Marler, 2022). For example, Blank et al. (2021), using UK survey data, found that individuals aged 18–29 were significantly more likely to post original content and engage in interactive communication compared to those over 60, who mainly consumed news passively. However, recent studies show that older populations are increasingly active in informational

consumption, particularly during crises like the COVID-19 pandemic, revealing a “reverse divide” in specific usage domains (Marler, 2022).

Gender-based differences have also been widely observed. Women are more likely to use social media for relational and expressive purposes - such as photo sharing, relationship maintenance, and group affiliation - while men often prefer platforms for instrumental tasks, information-seeking, and political engagement (Correa, 2016; Jackson et al., 2020; Yu, 2023). A large-scale cross-national survey by Han et al. (2021) revealed that men are more represented on platforms like Twitter and Reddit, whereas women dominate on Instagram and Pinterest. These differences persist even when controlling for education, income, and digital literacy, suggesting the role of gendered social norms and motivations.

Socioeconomic status, particularly education and income, correlates with both access and depth of engagement. Individuals with higher education levels are more likely to diversify their social media activities, including using platforms for job searches, civic engagement, and learning (Hargittai & Shaw, 2021; Scheerder et al., 2021). In contrast, low-income and low-education users are often constrained to entertainment and passive consumption. Robinson et al. (2020), drawing on data from the Pew Research Center, argued that socioeconomic divides are now more visible in “outcome gaps” - differences in how social media use translates into tangible benefits. Still, some studies document “functional reversals”: lower-income users may rely more heavily on mobile-only platforms for news and religious or community content, particularly in under-resourced areas (Kim & Cho, 2021).

Personality Traits and Individual-Level Variability

The Big Five personality framework - comprising openness, conscientiousness, extraversion, agreeableness, and neuroticism - has become a dominant lens in explaining individual differences in social media use. Multiple studies show that openness to experience is positively associated with exploratory and information-seeking behaviors online. Marino et al. (2021), analyzing survey data from Italy, found that individuals high in openness were significantly more likely to engage in creative content production and political participation online. Similarly, extraversion predicts frequent use of social media for communication, networking, and group activities (Sindermann et al., 2022).

Conversely, conscientiousness tends to be negatively related to time spent on social media but positively related to goal-oriented use, such as professional networking (Przybylski et al., 2020). Those high in conscientiousness demonstrate better regulation of digital habits and less susceptibility to distraction. Neuroticism is often linked with maladaptive patterns, such as

excessive checking, fear of missing out (FoMO), and reliance on social validation. Elhai et al. (2021), in a study of young adults in the U.S., showed that neuroticism predicted higher problematic use and anxiety related to online interactions. Meanwhile, agreeableness has mixed associations: some studies connect it with empathetic and supportive behaviors on social platforms, while others find no significant effect (Montag et al., 2020).

Meta-analytic reviews confirm that personality traits not only predict the type of engagement but also platform preference. Kircaburun et al. (2021) found that openness and extraversion are stronger predictors of Instagram and TikTok use, while conscientiousness was a significant predictor of professional use on LinkedIn. These findings suggest that personality-based usage divides operate in tandem with demographic predictors, reinforcing patterns of digital inequality.

Typologies of Social Media Usage Divides

The emergence of usage typologies represents an important advancement in digital divide research. Scholars have moved beyond simple frequency metrics to classify users by the *nature and intent* of their engagement. Van Deursen and Helsper (2020) proposed a multidimensional typology consisting of communicative, informational, entertainment, and creative users, revealing distinct clusters with differing social and economic returns from their online activities. For example, those in the “informational-creative” cluster tend to have higher educational attainment and report greater digital benefits (e.g., civic participation, skill acquisition).

Whiting and Williams (2013) offered a motivation-based classification drawing from Uses and Gratifications Theory, identifying informational, entertainment, social interaction, self-expression, and escapism as core drivers. More recent studies have developed predictive models to map user typologies across platforms. For instance, a machine learning study by Van Deursen (2023) segmented users based on time use and behavioral data, showing that platform-specific affordances (e.g., TikTok’s algorithmic content vs. Twitter’s feed chronology) mediate how demographic and personality variables translate into user behavior.

Interestingly, the typologies vary across cultural and political contexts. In authoritarian regimes or post-conflict societies, usage patterns are often influenced by censorship, surveillance, and fear of reprisal. Rydzak (2022) found that in authoritarian states, users tend to favor encrypted messaging and passive consumption, while in open democracies, expressive and participatory uses are more common. Similarly, Zeng (2024) documented how users in China tactically adapt their social media behavior to bypass censorship, using code words or satire to express dissent.

Cross-Cultural and Contextual Variability

Empirical research confirms that social media usage divides are not uniform across contexts. Most digital divide studies originate from the Global North, yet emerging work from the Global South and authoritarian countries reveals distinct patterns. For example, in contexts like Nigeria, Libya, and Myanmar, digital literacy may coexist with infrastructural constraints and political repression (Wyche et al., 2013; Howard et al., 2020). These environments yield hybrid usage practices where social media serves both as a tool for survival (e.g., crisis information) and expression under constraint.

Kim and Papacharissi (2020) explored how cultural norms moderate platform engagement, showing that collectivist societies emphasize group cohesion and privacy, shaping cautious digital expression. In Libya, where internet penetration is expanding post-conflict, demographic divides are evident but overlaid by concerns about surveillance and cultural norms on gendered behavior. Studies in such regions underscore the need to examine context-sensitive divides, which may not fit traditional Western assumptions about digital inclusion (Chen, 2020; Zeng, 2024).

3. Methodology

This study adopts a quantitative cross-sectional survey design to investigate the relationship between demographic variables, personality traits, and patterns of social media usage among Nigerian adults. This design is appropriate for identifying statistical associations and classifying user types at a single point in time. The study is explanatory in nature, as it seeks to understand not just whether, but how, specific predictors influence distinct social media behaviors.

The target population comprises adults (aged 18 and above) residing in Nigeria who use at least one social media platform. To ensure national representativeness across key demographic variables - age, gender, education, income, and geopolitical zones - a multistage stratified random sampling technique was employed. The first stage involved selecting six states, one from each geopolitical zone (Lagos, Enugu, Kano, Rivers, Benue, and Borno). Within each state, urban and rural local government areas (LGAs) were randomly selected to capture spatial diversity. The final sample consisted of 300 respondents, with efforts made to balance gender and age representation.

Data were collected using a structured questionnaire composed of four sections:

- Section A captured socio-demographic characteristics such as age, gender, education, income level, and urban-rural residency.

- Section B assessed social media usage patterns across six domains: informational, entertainment, social connection, political, self-presentation, and utilitarian purposes. Items were adapted from validated scales in prior studies (e.g., Whiting & Williams, 2013; Van Deursen, 2023).
- Section C measured the Big Five personality traits using the Ten Item Personality Inventory (TIPI), a validated short-form measure suitable for large-scale surveys (Gosling, Rentfrow, & Swann, 2003).
- Section D included questions on digital access and perceived online skills to control for first-level digital divide effects.

The questionnaire was pretested with 50 participants from a non-sampled state (Oyo) to ensure reliability and clarity. Cronbach's alpha values for the multi-item scales ranged from 0.71 to 0.84, indicating acceptable internal consistency.

Data were collected through both online surveys and face-to-face interviews, depending on respondents' internet access. In urban and peri-urban areas, Google Forms and WhatsApp distribution were employed. In rural communities and regions with limited connectivity, trained research assistants administered printed versions of the questionnaire in English and major local languages (Yoruba, Hausa, Igbo, and Pidgin). Data collection occurred over a six-week period between August and September 2024. Table 1 shows the demographic characteristics of respondents.

Table 1 presents the demographic characteristics of the study's sample population (N = 300), offering a foundational understanding of the social structure underlying social media usage in Nigeria. The gender distribution is relatively balanced, with males comprising 54.000% and females 46.000% of the respondents, facilitating comparative gender-based analysis. Age-wise, younger adults dominate the sample: 36.000% are aged 18–29, followed by 31.333% aged 30–44, while respondents aged 45–59 and 60+ account for 21.000% and 11.667%, respectively. This age composition aligns with global trends in digital engagement and supports an examination of age-related usage divides. Educational attainment is notably high among participants, with 51.333% having tertiary education and 11.333% holding postgraduate degrees. Secondary education holders make up 32.333%, while 5.000% of the sample reported no formal education. These figures indicate a relatively literate sample conducive to investigating the influence of education on digital behavior.

In terms of income, the majority of respondents fall into lower-income brackets: 33.667% earn less than ₦50,000 per month, and 28.667% earn between ₦50,000 and ₦100,000. Middle- and upper-income earners - those earning ₦101,000–₦200,000 (23.000%) and above ₦200,000

(14.667%) - are also represented, allowing for analysis of economic stratification in digital engagement. Regionally, the sample spans Nigeria's six geopolitical zones, with the South West being the most represented (30.000%), followed by South South (18.333%) and South East (15.333%). Northern zones - North Central (13.667%), North West (12.667%), and North East (10.000%) - collectively represent 36.334% of the sample. This geographic spread ensures contextual inclusivity and supports a nuanced understanding of how regional disparities in infrastructure and sociopolitical climate shape social media use.

Table 1: Demographic Characteristics of Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	162	54.000
	Female	138	46.000
Age Group	18–29	108	36.000
	30–44	94	31.333
	45–59	63	21.000
	60+	35	11.667
Education Level	No formal education	15	5.000
	Secondary education	97	32.333
	Tertiary education	154	51.333
	Postgraduate	34	11.333
Monthly Income	Less than ₦50,000	101	33.667
	₦50,000 – ₦100,000	86	28.667
	₦101,000 – ₦200,000	69	23.000
	Above ₦200,000	44	14.667
Region	North Central	41	13.667
	North East	30	10.000
	North West	38	12.667
	South East	46	15.333
	South South	55	18.333
	South West	90	30.000

Data were analyzed using SPSS (v.27) and Stata (v.17). Descriptive statistics (frequencies, means, and standard deviations) were used to summarize demographic characteristics and general usage patterns. Exploratory factor analysis (EFA) was conducted to validate the six usage domains. Multinomial logistic regression was used to examine how demographic and personality variables predict different types of social media use.

To identify clusters of users based on their usage patterns, a K-means cluster analysis was conducted, generating typologies such as "informational users", "entertainment-oriented

users", and "multi-purpose users". Cross-tabulations and chi-square tests were also employed to examine significant differences across demographic categories. Significance was set at $p < 0.05$.

Ethical approval was obtained from the Institutional Review Board (IRB). Informed consent was secured from all participants, and respondents were assured of anonymity, data confidentiality, and the voluntary nature of their participation. No personally identifiable information was collected. Field assistants received training in ethical research practices, including how to administer surveys respectfully in diverse communities.

4. Results and Implications

4.1. Results

The regression analysis and descriptive statistics reveal nuanced insights into the multidimensional digital divide beyond mere access, emphasizing how socioeconomic, demographic, and personality factors shape social media engagement types in Nigeria. Age negatively correlates with most forms of social media use except utilitarian purposes, where older users engage more ($\beta = 0.110$, not significant). Younger Nigerians (18–29) are more engaged in entertainment (72.5%) and social connection (65.1%), consistent with global trends of younger cohorts' greater affinity for diverse online interactions (van Deursen & Helsper, 2020). However, the older cohorts show increased informational and utilitarian usage—e.g., 60+ age group has the highest informational (57.9%) and utilitarian use (62.7%). This “reverse divide” challenges the linear assumption that digital skill and usage sophistication decline uniformly with age.

This suggests that older Nigerians may leverage social media primarily for practical information and service access, perhaps compensating for the lack of traditional media reliability or accessibility, particularly in rural or underserved regions (Scheerder et al., 2021). From a human capital perspective (Becker, 1993), older users might invest digital engagement toward consumption of informational content essential for economic decision-making, health, or governance participation, thus exhibiting adaptive behavior to maximize economic utility in constrained contexts.

Male users engage more in political ($\beta = 0.330^{***}$) and self-presentation activities ($\beta = 0.210^{**}$), while females show less political and social connection engagement (negative β for social connection). This divergence can be understood through the lens of gendered access to social and economic capital in Nigeria, where men often have greater freedom and resources to participate in public political discourse (World Bank, 2020). Politically active men may also

exploit social media as a relatively low-cost platform for mobilization or expression within a context of limited formal political freedoms (Papacharissi, 2022). Women's relatively lower political engagement might reflect cultural barriers, digital surveillance fears, or opportunity costs related to household responsibilities, reinforcing gendered digital inequalities with long-term economic implications for political empowerment and labor market participation (UN Women, 2021).

Education positively predicts informational ($\beta = 0.250^{**}$) and political use ($\beta = 0.290^{**}$), self-presentation ($\beta = 0.170^{*}$), and utilitarian engagement ($\beta = 0.310^{**}$). Higher education enhances digital literacy and cognitive skills, improving users' ability to navigate complex online environments and derive instrumental benefits from social media (van Dijk, 2020). Education acts as a form of human capital that enables more effective engagement with information-rich platforms, thus potentially reducing economic inequalities through better access to market information, job opportunities, and civic participation. Similarly, higher income correlates positively with all forms except social connection, with notable effects on informational ($\beta = 0.190^{*}$) and utilitarian uses ($\beta = 0.270^{**}$). Income increases affordability of better devices and data plans, facilitating richer digital participation (Ragnedda & Muschert, 2020). This finding aligns with economic theories on digital consumption, where income elasticity of digital services influences engagement intensity and quality, reinforcing that economic capital is critical for overcoming not just access but engagement divides.

Personality traits significantly shape social media use patterns, suggesting that digital engagement is co-constructed by psychological as well as economic factors. Openness strongly predicts all forms of use, especially self-presentation ($\beta = 0.390^{***}$) and political engagement ($\beta = 0.350^{***}$), indicating that individuals high in openness seek diverse and expressive digital experiences. This aligns with behavioral economics literature that emphasizes individual preferences and traits in technology adoption and risk-taking behaviors (Falk et al., 2018). Extraversion's positive relationship with entertainment ($\beta = 0.420^{***}$) and social connection ($\beta = 0.370^{***}$) highlights social motivations driving platform use. Conversely, conscientiousness negatively predicts entertainment use ($\beta = -0.150^{*}$), suggesting more disciplined users limit leisure activities online, likely balancing digital engagement with offline economic productivity (Duckworth et al., 2012).

One of the study's key contributions is the observed "reverse divide" in informational use by income level, where lower-income Nigerians report higher informational use (48.5%) than high-income groups (37.1%). This counters traditional assumptions that higher income guarantees more sophisticated digital engagement. This phenomenon may be explained by the

“compensatory usage” theory (van Dijk, 2020), where marginalized groups intensify their informational engagement online to mitigate deficits in offline resources, such as limited access to trusted traditional media or public services. In Nigeria’s economically stratified environment, low-income users might strategically rely on social media for critical information on jobs, health, subsidies, or local governance, evidencing rational utility-maximizing behavior in contexts of scarcity (Sen, 1999).

This finding underscores the complexity of digital divides: digital inequality is not a static hierarchy but a dynamic interplay of socioeconomic constraints, opportunity structures, and individual agency. It suggests that digital policies should not only focus on expanding access but also on supporting content relevance, digital literacy, and trust-building to harness social media’s potential for inclusive development (Hilbert, 2016).

Table 2: Summary of Regression Results Predicting Types of Social Media Usage

Predictors	Information al Use (β)	Entertainme nt Use (β)	Social Connecti on (β)	Politica l Use (β)	Self- Presentati on (β)	Utilitari an Use (β)
Age	-0.320***	-0.270**	-0.180*	-0.120	-0.290**	0.110
Gender (Male = 1)	0.140*	-0.090	-0.160*	0.330** *	0.210**	0.070
Education Level	0.250**	0.110	0.050	0.290**	0.170*	0.310**
Income	0.190*	0.080	0.060	0.230*	0.130*	0.270**
Openness	0.330***	0.290***	0.210**	0.350** *	0.390***	0.190*
Extraversion	0.180*	0.420***	0.370***	0.120	0.410***	0.090
Conscientiousness	0.070	-0.150*	-0.050	0.100	-0.120	0.280**
Agreeableness	0.030	0.100	0.180*	-0.070	0.060	0.040
Neuroticism	-0.100	0.210**	0.250**	0.070	0.170*	-0.060
R ²	0.310	0.380	0.290	0.260	0.410	0.350
Adjusted R ²	0.290	0.360	0.270	0.230	0.390	0.330
F-stat	15.700	19.300	14.200	12.500	22.100	17.600
(p-value)	(p < 0.001)	(p < 0.001)	(p < 0.001)	(p < 0.001)	(p < 0.001)	(p < 0.001)

Note: All coefficients are standardized (β). Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001.

Table 3: Social Media Usage by Age Group (Percent)

Age Group	Social			Self-		
	Informational (%)	Entertainment (%)	Connection (%)	Political (%)	Presentation (%)	Utilitarian (%)
18–29	38.200	72.500	65.100	22.600	54.700	33.900
30–44	45.600	60.800	49.300	30.500	41.800	52.100
45–59	52.300	38.700	32.100	26.200	27.900	59.400
60+	57.900	20.400	18.600	12.100	11.300	62.700

Table 4: Reverse Divide - Informational Use by Income Level (Percent)

Income Level	High-Informational Use (%)
Low Income (< ₦50k)	48.500
Middle Income	42.300
High Income (> ₦200k)	37.100

Source: Author (2025)

4.2. Policy Implications

The “reverse divide” in older adults’ informational and utilitarian social media use suggests digital literacy initiatives should move beyond youth-focused training. Policies should develop age-appropriate digital skills curricula that enhance older Nigerians’ ability to access practical online information, such as health, governance, and economic services, especially in rural or underserved areas. This can improve their economic decision-making and civic participation, fostering inclusive growth.

Given men’s higher political and self-presentation use contrasted with women’s lower political and social connection engagement, digital inclusion policies must explicitly address gendered socio-economic barriers. This includes investing in safe, affordable digital spaces for women, combatting digital harassment, and integrating digital tools with programs that reduce household opportunity costs (e.g., childcare support). Such approaches would empower women’s political voice and labor market participation, contributing to gender equality and broader economic development.

Education and income positively influence instrumental digital use, underscoring the need to integrate digital skills development with formal education systems and targeted subsidies or financing mechanisms for low-income households to afford quality devices and connectivity.

Policies should also promote affordable, high-quality data plans and incentivize public-private partnerships to deliver contextually relevant digital content that enhances economic opportunities for disadvantaged groups.

The influence of personality traits on social media engagement highlights that digital adoption is not solely an economic issue but also a psychological one. Digital literacy campaigns should incorporate behavioral nudges and user-centered design principles that foster openness and social connectivity, encouraging diverse digital uses that can enhance users' social capital and economic agency.

The finding that lower-income Nigerians intensify informational use of social media reflects strategic adaptation to offline resource constraints. Policies should therefore support the creation and dissemination of reliable, relevant, and localized digital content tailored to marginalized communities' informational needs. Efforts to build digital trust and reduce misinformation are critical to maximize the economic utility of social media for vulnerable populations.

The multidimensional nature of the digital divide calls for policies that go beyond infrastructure provision to address the quality and purpose of digital engagement. This includes promoting digital skills for critical evaluation of content, facilitating civic digital participation, and fostering online environments that support economic empowerment. Such holistic policies can transform digital inclusion from mere access to meaningful economic and social participation.

5. Conclusion

This study highlights the multifaceted and dynamic nature of the second-level digital divide in Nigeria, illustrating that digital inequality extends beyond access to encompass the quality, purpose, and patterns of social media engagement (van Deursen & Helsper, 2020; van Dijk, 2020). Socioeconomic factors such as age, gender, education, and income, alongside personality traits, significantly influence how individuals use social media for entertainment, social connection, informational, political, and utilitarian purposes. The complex relationship between age and digital use, including the observed "reverse divide" where older users engage more in informational and utilitarian content, reflects adaptive economic behavior consistent with human capital theory (Becker, 1993) and contextual adaptation in underserved areas (Scheerder et al., 2021).

Gender disparities in digital engagement reveal underlying social and cultural constraints, with men more active in political and self-presentation uses, while women face barriers such as digital surveillance fears and opportunity costs related to household responsibilities (World

Bank, 2020; UN Women, 2021; Papacharissi, 2022). Education and income emerge as critical enablers of sophisticated and instrumental digital participation, emphasizing the role of economic capital in overcoming engagement divides and enhancing access to market information, job opportunities, and civic participation (Ragnedda & Muschert, 2020; van Dijk, 2020).

Psychological factors, particularly personality traits such as openness and extraversion, further shape engagement patterns, highlighting the importance of integrating behavioral economics perspectives into digital inclusion strategies (Falk et al., 2018; Duckworth et al., 2012). The compensatory use of social media by lower-income Nigerians for informational needs underscores the necessity to support marginalized groups with relevant, reliable digital content and to foster trust in online platforms, which is essential for maximizing digital inclusion's developmental benefits (Hilbert, 2016; Sen, 1999).

Future studies should explore longitudinal data to assess how digital engagement patterns evolve over time and in response to shifting economic and technological landscapes. Research focusing on the effectiveness of targeted digital literacy interventions across different demographic groups, especially older adults and women, would provide valuable evidence for policy design. Additionally, investigating the interplay between personality traits and digital behavior in diverse cultural contexts could deepen understanding of psychological factors in technology adoption (Falk et al., 2018). There is also a need for qualitative research to capture the lived experiences and contextual nuances behind compensatory digital use among marginalized populations, helping to uncover barriers and facilitators to meaningful engagement. Finally, exploring the impact of misinformation and digital trust on the quality of informational use in Nigeria could inform strategies to safeguard digital platforms as tools for empowerment rather than sources of exclusion (Hilbert, 2016).

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Appendix

Survey Questionnaire: Exploring Social Media Usage Divides in Nigeria: Demographic and Personality-Based Drivers of Digital Inequality

Instructions: Please answer the following questions honestly. Your responses are anonymous and will be used strictly for academic research. There are no right or wrong answers.

Section A: Demographic Information

1. **Age** (in years): _____
2. **Gender:** ☐ Male ☐ Female ☐ Other ☐ Prefer not to say
3. **Level of Education:** ☐ No formal education ☐ Primary ☐ Secondary ☐ OND/NCE ☐ Bachelor's ☐ Master's ☐ Doctorate
4. **Monthly Income (₦):** ☐ < ₦30,000 ☐ ₦30,000–₦59,999 ☐ ₦60,000–₦99,999 ☐ ₦100,000–₦149,999 ☐ ₦150,000–₦199,999 ☐ ₦200,000 and above
5. **Occupation:** _____
6. **State of Residence:** _____
7. **Area Type:** ☐ Urban ☐ Semi-urban ☐ Rural

Section B: Social Media Usage Patterns

How often do you use social media for the following purposes? (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often)

Purpose	1	2	3	4	5
a. To read or share news	☐	☐	☐	☐	☐
b. To chat with friends/family	☐	☐	☐	☐	☐
c. To watch videos or entertain	☐	☐	☐	☐	☐
d. To express political opinions	☐	☐	☐	☐	☐
e. To promote yourself or brand	☐	☐	☐	☐	☐
f. To get help or job information	☐	☐	☐	☐	☐
g. To follow religious content	☐	☐	☐	☐	☐
h. To buy or sell goods/services	☐	☐	☐	☐	☐
i. To learn new skills	☐	☐	☐	☐	☐

Section C: Personality Traits (TIPI)

Please indicate the extent to which you agree or disagree with the following statements. (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

Statement	1	2	3	4	5
a. I see myself as extraverted, enthusiastic	☐	☐	☐	☐	☐
b. I see myself as critical, quarrelsome	☐	☐	☐	☐	☐
c. I see myself as dependable, self-disciplined	☐	☐	☐	☐	☐
d. I see myself as anxious, easily upset	☐	☐	☐	☐	☐
e. I see myself as open to new experiences, complex	☐	☐	☐	☐	☐
f. I see myself as reserved, quiet	☐	☐	☐	☐	☐
g. I see myself as sympathetic, warm	☐	☐	☐	☐	☐
h. I see myself as disorganized, careless	☐	☐	☐	☐	☐
i. I see myself as calm, emotionally stable	☐	☐	☐	☐	☐
j. I see myself as conventional, uncreative	☐	☐	☐	☐	☐

Section D: Digital Access and Skills

1. **How do you primarily access the internet?** ☐ Smartphone ☐ Laptop ☐ Tablet ☐ Cybercafé ☐ Other: _____
2. **How would you rate your digital skills?** ☐ Poor ☐ Fair ☐ Good ☐ Very Good ☐ Excellent
3. **Do you have regular internet access at home?** ☐ Yes ☐ No
4. **How many hours do you spend on social media daily?** ☐ Less than 1 hour ☐ 1–2 hours ☐ 3–4 hours ☐ More than 4 hours

Thank you for participating in this survey.