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Social Media Use and Mental Wellbeing among College Students in Kenya: A Study of Kasarani Technical and Vocational Institute

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Abstract: ***This study examined the perceived influence of Facebook, X (formerly Twitter), Instagram, and TikTok on mental wellbeing among students at Kasarani Technical and Vocational Institute in Nairobi, Kenya. A cross-sectional descriptive research design was adopted. Of the 254 students sampled from a population of 400, 212 completed a semi-structured questionnaire. Quantitative responses were analysed using descriptive statistics, while qualitative responses were examined thematically. Findings revealed differences in perceived mental wellbeing across platforms. Facebook and Instagram were associated mainly with social comparison and concerns about self-esteem. X users reported particularly high levels of perceived anxiety and depression related to political discussions and hostile online interactions. TikTok showed the highest level of self-reported addictive use, with approximately 94% of its users reporting some or extreme addictive effect. However, most TikTok users reported little or no negative influence on anxiety and depression, and some described improved confidence. The findings highlight the importance of considering platform-specific experiences when developing counselling and digital wellbeing programmes. Further research using validated psychological measures is recommended.***

Keywords: Social Media Use, Mental Wellbeing, College Students, Social Media Addiction, Kenya

1. Introduction

Social media is an integral part of modern life. Young people use it for social, professional, economic and entertainment purposes: to connect with friends and family, to access information and to express themselves on an almost unlimited range of issues. Like any social construct, however, it is prone to misuse, and malicious or careless use can expose people to unhealthy images, conversations and personal attacks (Phalswal et al., 2023). These effects are likely to be most severe among young people, who are the most impressionable (Gupta et al., 2022).

Kenyan youth are part of this global cyberspace. Kepios (2024) estimated 13.05 million social media users in Kenya in January 2024, equivalent to 23.5% of the population, and reported that 57.5% of all internet use in the country is spent on social media. With a median age of 19.7 years, the Kenyan population is young, which implies young adults constitute an important population for studying social media use and more likely to be significantly affected by extended use. Most young adults actively use Facebook, X, Instagram and TikTok.

Despite this high traffic, there is a notable gap in research on how these platforms affect the mental health of Kenyan youth. Mental health services in Kenya are scarce, even fewer resources are directed to prevention, and low awareness leads to stigmatisation (Memiah et al., 2022). Young people who have distressing experiences on social media may therefore have few places to turn.

The platforms differ in what they offer and so, plausibly, in how they affect users. Facebook is the largest platform by active users (Statista, n.d.) and helps people keep in touch with family, friends and former schoolmates. X functions as a global virtual town hall in which professionals, politicians, public figures and private citizens discuss diverse issues (Rufai & Bunce, 2020). Instagram, limited to images and video, is dominated by content that epitomises extravagance and opulence (Pellegrino et al., 2022) and is a preferred platform for advertisers. TikTok emphasises livestreaming and short video clips, and it makes inappropriate content hard to filter out, which can create moral dissonance (Qin et al., 2022; Te Brake & Nauta, 2022).

Existing research often examines one platform at a time, without comparing platforms or considering their cumulative effects. This study addresses that gap by examining the effects of four platforms on depression, anxiety, self-esteem and addiction among college students in Kasarani, Nairobi. Its objectives were to determine the effects of Facebook, X, Instagram and TikTok use, respectively, on the mental health of young adults in the area.

2. Literature Review and Theoretical Framework

2.1 Facebook

Shakya and Christakis (2017) found that extensive Facebook use was associated with poorer mental wellbeing, life satisfaction and physical health. Alenezi et al. (2023) reported a strong correlation between Facebook addiction and depressive symptoms, and found that addiction impairs emotional regulation, creating a feedback loop in which people turn to Facebook to cope and thereby worsen their distress. African studies point the same way: research among South African university students linked extensive use to negative social comparison, inadequacy, depression and anxiety (Chukwuere & Chukwuere, 2017), and a Ghanaian study found that passive consumption can aggravate loneliness and isolation (Malm et al., 2022).

2.2 X (formerly Twitter)

In an analysis of some 2,700 tweets on mental health conditions, Jansli et al. (2022) found that 40.8% were stigmatising. De Mello et al. (2024) reported that increased

use of X was associated with changes in wellbeing, including greater polarisation and outrage. The platform is not uniformly harmful: Liu and Woo (2021) found that some medical students and professionals used it as a mental health support tool that reduced stigma. In Africa, exposure to negative news, heated political discussion and trolling has been linked to anxiety, depression and stress ('doomscrolling'; Ridwanullah et al., 2024).

2.3 Instagram

Jiang and Ngien (2020) found that Instagram use does not directly increase social anxiety; rather, frequent use increases social comparison, which lowers self-esteem and in turn heightens anxiety. Hendrikse and Limniou (2024) found that time on Instagram predicted problematic social media use, which influenced depression and self-esteem. Exposure to idealized body standards in Instagram advertising increases upward physical appearance comparisons, body dissatisfaction, and willingness to engage in appearance-altering practices among young women (Ferdousi et al., 2023), and a Kenyan study reported stress and depression among social media users (Kinyua (2016).

2.4 TikTok

Ramsden and Talbot (2024) found that TikTok offers students temporary relief but chiefly promotes addictive behaviour and upward social comparison. Chao et al. (2023) linked addictive use among young people to poorer academic performance. Evidence from Sub-Saharan Africa suggests social media-induced depression tendencies are driven by sensitivity/attention seeking, feelings of worthlessness, and escapism (Ugwu et al., 2023), while Egyptian research linked social media use with depression, anxiety, and stress among university students in Egypt (Sayed et al., 2022). Kenyan evidence on social media and mental health remains limited, although Ongeri et al. (2021) and Kinyua (2016) point to sleep disturbance, stress and depression among Kenyan users.

2.5 Theoretical Framework

Three theories guided the study. **Social Comparison Theory** (Festinger, 1954) holds that people evaluate themselves by comparison with others, particularly those perceived as better off; upward comparison can inspire but can also lower self-esteem (Cherry, 2024). **Uses and Gratifications Theory** (Katz, Blumler & Gurevitch, 1974) treats audiences as active, goal-directed users who choose platforms to meet needs such as information, entertainment and identity; unmet gratifications or negative experiences may harm wellbeing (Kircaburun & Griffiths, 2019). **Media Richness Theory** (Daft & Lengel, 1986) proposes that media differ in their capacity to carry information and cues, so that rich, video-based platforms such as TikTok may allow deeper emotional engagement than lean, text-based platforms such as X, where nuance is lost (Karapanos et al., 2016).

In the conceptual framework, the four platforms are the independent variables and mental wellbeing outcomes (depression, anxiety, self-esteem and addiction) the dependent variable, with the three theories offering explanations of how user experience, including interactions and content type, links the two.

3. Methodology

A cross-sectional descriptive design was used to examine how social media addiction relates to the mental health of young adults. The target population was the 400 students of Kasarani Technical and Vocational Institute, mainly aged 18–22. Slovin's formula ($n = N / [1 + N(e)^2]$, with $e = 0.05$) gave a minimum sample of 254. The study used stratified sampling technique. Participants were stratified by gender. A semi-structured questionnaire with closed- and open-ended items was used to collect data. The questionnaire was pre-tested and revised before the actual collection of data. The reported outcomes on the questionnaire reflect perceived platform effects and not clinical diagnoses. Quantitative data were analysed using descriptive statistics (mean, standard deviation, percentages) and presented in tables. Open-ended responses were analysed thematically to explain the quantitative patterns. After receiving ethical clearance from Kenya Methodist University, the researcher sought further clearance from NACOSTI before proceeding to collect data. Participants gave informed consent, were assured of voluntary participation, confidentiality and anonymity, and could withdraw at any time without consequence. Data were stored securely, accessible only to authorised researchers, and identifying information was removed during analysis and reporting.

4. Results

4.1 Response rate and respondents

Out of 254 sampled, 212 completed the questionnaires in full, giving a response rate of 83%. The 212 respondents comprised 110 females (52%) and 102 males (48%). Most (98%, n = 207) were aged 18–22 (mean = 20.14 years, SD = 0.97), three were aged 23–26 and two aged 27–30. All were pursuing a certificate or diploma.

4.2 Platform use

TikTok (94.8%) and X (93.4%) were the most widely used platforms, followed by Instagram (82.1%) and Facebook (61.3%). TikTok was also used most frequently: 183 respondents (86%) used it almost daily or several times a day. X use was concentrated at one to three times a week (143 respondents, 67%). About half of respondents (107, 50%) used Instagram between once a week and almost daily, and only 49% accessed Facebook at least once a week.

Table 1: Platform use

Platform	Users (n)	Users (%)
Facebook	130	61.3
X	198	93.4
Instagram	174	82.1
TikTok	201	94.8

4.3 Facebook

Among Facebook users (n = 130), most reported some effect on anxiety (60%), self-esteem (55%) and depression (43%),

while few reported extreme effects. The dominant theme was comparison with peers: Facebook keeps users in contact with former schoolmates and childhood friends who appear to be doing better, leaving them feeling they are lagging. Perceived addictive use was low, with 93 of 130 users (72%) reporting little or no effect.

Table 2: Perceived Influence of Facebook use (n = 130)

Outcome	Little/no effect	Some effect	Extreme effect
Anxiety	43	78	9
Depression	69	56	5
Self-esteem	47	71	12
Addiction	93	29	8

4.4 X

X had the strongest effects on anxiety and depression: 64% (127 of 198) reported extreme anxiety and 65% (129 of 198) extreme depression. Self-esteem was mostly moderately affected (58%), and 63.6% reported little or no perceived addictive use. Respondents attributed their distress to excessive discussion of national politics, insults and lack of courtesy from other users, and unproductive argument.

Table 3: Perceived effect of X use (n = 198)

Outcome	Little/no effect	Some effect	Extreme effect
Anxiety	12	59	127
Depression	15	54	129
Self-esteem	10	115	73
Addiction	126	41	31

4.5 Instagram

Instagram users (n = 174) mostly reported moderate effects on anxiety (64%), depression (59%) and self-esteem (73%), while 62% reported little or perceived addictive use. Qualitative responses described the 'happy lifestyle' portrayed by others, which left users feeling inadequate, and an overarching theme of 'extravagance and opulence': advertisements for clothing, shoes and gadgets that users wished to own but could not afford, leaving them low (depressed) or worried (anxious).

Table 4: Perceived effect of Instagram use (n = 174)

Outcome	Little/no effect	Some effect	Extreme effect
Anxiety	29	112	33
Depression	48	103	23
Self-esteem	11	128	35
Addiction	108	35	31

4.6 TikTok

TikTok's most significant result was addiction: 77 of 201 users (38%) reported an extreme and 113 (56%) a moderate addictive effect. Effects on anxiety and depression were minimal, with 77% and 73% respectively reporting little or no effect. For self-esteem, 130 users (65%) reported that TikTok did not lower it, and 23 participants volunteered that the platform made them more confident. Respondents said they could not stop using it because of the short-video format, the randomness of content and the chance to 'see people doing funny things'.

Table 5: Perceived effect of TikTok use (n = 201)

Outcome	Little/no effect	Some effect	Extreme effect
Anxiety	155	35	11
Depression	147	41	13
Self-esteem	130	46	25
Addiction	11	113	77

5. Discussion

Facebook: The findings are consistent with evidence that Facebook use is associated with poorer wellbeing (Shakya & Christakis, 2017) and with the pattern of negative social comparison reported in African student samples (Chukwuere & Chukwuere, 2017). In terms of Social Comparison Theory, users repeatedly compare themselves upward with peers who have reached milestones they have not. The emotional-regulation account of Alenezi et al. (2023) offers a further explanation: people with symptoms that began elsewhere may turn to the platform to cope and be exposed to content that worsens them. Effects were mostly moderate and addiction was low, suggesting a less severe overall influence than on other platforms.

X: The high levels of anxiety and depression support research linking negative, politically charged content and trolling to poor mental health among African young adults (Ridwanullah et al., 2024; Ali & Mahmoud, 2019). Economic and political challenges appear as trending topics, so users are frequently exposed to pessimistic content about jobs, politics and economic stability. Media Richness Theory suggests that text-based exchanges, which lack emotional nuance, may add to misunderstanding and hostility. Low addiction suggests that users may be better able to limit their exposure than on other platforms.

Instagram: Results match the pathway described by Jiang and Ngien (2020), in which frequent use heightens comparison, lowers self-esteem and fosters anxiety, and the body-image and lifestyle concerns reported in South African and Kenyan studies ((Ferdousi et al., 2023; Kinyua (2016).). Respondents' concern extended beyond appearance to material lifestyle, which may be especially salient for students with limited means. Low addiction suggests users retain some control over their use.

TikTok: The high rate of addiction accords with research on TikTok's addictive design and its links to academic decline (Chao et al., 2023; Qin et al., 2022). Uses and Gratifications Theory helps explain why: the platform readily supplies the entertainment and diversion that users seek, so use continues beyond intention. The positive self-esteem finding is consistent with evidence that TikTok can support self-expression and reduce loneliness temporary relief (Ramsden & Talbot, 2024). Because the questionnaire framed self-esteem effects in a largely negative direction, the positive effect may be under-reported. Prolonged use may also hinder emotional development and effective interaction in the physical world.

Overall, the platforms with the greatest mental health effects (X, Instagram, Facebook) were not those that users found addictive, and the platform users found most addictive (TikTok) was least associated with depression and anxiety.

Content and social context, rather than time spent alone, appear to shape the nature of the harm.

6. Limitations

The study relied on self-reported experiences, which may carry conscious and unconscious bias. Anxiety, depression, self-esteem and addiction were captured as self-rated influence of the platform on three point scale and not as symptoms measured with validated instruments. The study did not diagnose mental health conditions or use clinical scales.

7. Conclusions and Recommendations

This study found that students at Kasarani Technical and Vocational Institute reported different mental wellbeing experiences across Facebook, X, Instagram, and TikTok. Facebook and Instagram were commonly associated with social comparison and concerns about self-esteem. X users reported substantial perceived effects on anxiety and depression, particularly in connection with political discussions and negative online interactions. TikTok users reported the highest levels of addictive use, although most indicated limited negative effects on anxiety and depression, and some described improved confidence. These findings suggest that the relationship between social media use and mental wellbeing may vary according to platform characteristics and user experiences. Counselling professionals and educational institutions should consider platform-specific digital habits when developing awareness and support programmes. Further studies using validated psychological measures and broader student samples are recommended to examine these relationships more closely.

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