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Article

Digitalization and the Emerging Risk of Delinquency Among Emerging Adults Raised in a Wired World

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Abstract: Globally, the digital age has immensely contributed to the evolution and emergence of delinquency and social problems among emerging adults. As excellent as the tremendous benefits that technology has afforded these generations of youths raised in a wired world, some have decided to engage in the dark side of computer technology. The main aim of the study is to explore the how problematic internet use can influence development of delinquent behaviour among emerging adults in higher school of learning. It also explored the role of household financial capabilities of the emerging adults. The study adopted convenient sampling method to select n=386; (50.5% males and 49.5% females) who were aged between 16-27 years from University of Lagos. This cross-sectional study administered standardized instruments to examine the variables (Problematic internet use questionnaire, Disciplinary and delinquent behaviour survey) Result showed no significant difference between problematic internet use and emerging adult delinquency (t(384) = -1.29 P> .05), also, no significant difference between the delinquency of participants from high or low income earners, *t*(373) = -1.93, P> .05). Therefore, it is expedient to develop safety guidelines that will serve as interplay between digitalization and delinquency in which emerging adults must exercise restraint and broader range of delinquency can be confirmed among other samples.

Keywords: Digitalization; delinquency; emerging adults; wired world; risk taking

Introduction

The digital age, with its tremendous array of functionalities and wide-ranging applicability, has become more of a necessity than a luxury in the 21st century. Used in homes, businesses, schools, and workplaces, it is considered an indispensable asset by people of all races, ages, and cultural backgrounds. It has incrementally influenced the way we interact and communicate (Kaya & Bicen, 2016) and revolutionized accessibility to information and knowledge. The era of digitalization has broadened the opportunity for emerging adults to engage in delinquent behaviours (cybercrime, violence, misinformation, sexual molestation, bullying, victimization, exploitation of victims) which has highly increased the number of potential offenders. Digitalisation makes emerging adults set out to explore the world around them (Siraj et al., 2021), broaden pre-existing experiences while creating new ones, and embark on sensation-seeking adventures through previously unexplored means (Slot et al., 2019). This process sometimes includes enacting their growing independence in potentially delinquent forms (Dijkstra et al., 2015). Some examples of prevalent delinquent behaviours include physical aggression, selling or abusing drugs, theft, vandalism, and truancy (López et al., 2017). These have been found to be closely linked to issues such as depression, and a host of other mental

disorders (Jokinen et al., 2020), drug addiction, poor academic performance (Gubbels et al., 2019), strained interpersonal relationships, and deaths of unnatural causes, such as murder and suicide (Nnanwube, Ani & Ojakorotu, 2019; Stenbacka et al., 2019; Ani, Nnanwube & Ojakorotu, 2019).

The bulk of literature on excessive and problematic Internet use leans towards risky delinquent behaviours, psychiatric and psychosocial correlates such as family functioning, parent–child relationships, parental socio-economic backgrounds (Lai & Kwan, 2017; Pontes et al., 2016; Sela et al., 2020; Weinstein & Lejoyeux, 2010), as well as the prevalence and repercussions of indulgence in the multifaceted uses of the Internet (Balhara et al., 2015; Ilesanmi et al., 2021; Onukwuli et al., 2023; Oshodi et al., 2012). To this end, this study aimed to explore the interaction digitalization and delinquency, as well as how it is influenced by selected demographic factors.

Owing to the pervasiveness and centrality of the Internet to the lives of young people, a particularly crucial consequence that comes to light is an increased potential for criminality (Hawdon, 2012). Brewer and colleagues (2018) investigated the criminogenic potential of certain technological features of the Internet which may facilitate the transition of innocent online social activities to technologically mediated criminal activities. Examples of such criminal activities and risky behaviours include Internet gambling, cyberbullying, frequent and excessive consumption of sexually explicit content, and trolling, among others. These behaviours have come to be identified as problematic online behaviours (POB), which are maladaptive habits resulting from poorly regulated and intemperate Internet use (Baggio et al., 2018).

These online activities bear resemblance to traditional (offline) forms of delinquency and are equally as worrisome and grievous, although they both typically happen in different environments. Kowalski and Limber (2013) study revealed that emerging adults who engage in delinquent behaviour offline are more likely to engage in problematic online behaviour, such as online harassment. Conversely, individuals who engage in problematic online behaviour have more inclination to engage in delinquent behaviour in offline environments (Wong et al., 2014), such as truancy, bullying, and dropping out of school (Chao et al., 2020).

Problematic Internet use has been associated with high levels of aggression, anxiety, and depression, which are all risk factors for delinquent behaviour (Chen et al., 2017). A survey in America revealed that in a sample of adolescents aged 13–17, a staggering 92% used the Internet every day, with a quarter of them reporting that they were almost constantly online (Lenhart, 2015). Additionally, 18% of the participants in another study were considered to be pathological Internet users, whose excessive Internet use was causing a range of social, academic, and interpersonal problems (Niemz et al., 2005).

The main aim of the study is to explore the how problematic internet use can influence development of delinquent behaviour among emerging adults in higher school of learning. The fact that internet is accessible and popular in schools and public libraries, this has been a medium of equalizer for emerging adults whose family may ordinarily not support internet access. This medium provide by the internet has given emerging adults access to delinquent behaviours that are threats to their wellbeing. Therefore, the objectives were to examine if there will be a significant relationship between problematic Internet use and delinquency of emerging adults, secondly, to establish if participants in households that earn more (above ₦150,000) will be more delinquent than those in household that earn less (below ₦150,000). Hypotheses stated were; (1) There will be a significant relationship between problematic Internet use and delinquency of emerging adults and (2) Participants in households that earn more (above ₦150,000) will be more delinquent than those in households that earn less (below ₦150,000).

Literature Review

Given the dearth of studies examining the direct relationship between PIU and delinquency, the following segment will be a review of literature on a range of factors that function either in a predictive or mediating capacity in the relationship between delinquency and PIU. Examples include family influences (such as poor parental guidance, inadequate monitoring, and neglect), peer relations and pressures, and socio-economic factors (such as poverty, crime-infested neighbourhoods, and poor access to education). Family relations or parental factors, for example, encompass the quality of parent-child relationship, family functioning, parenting styles, parental neglect, parental attitudes, parent-child conflict, and so on (Nannatt et al., 2022). Kwak et al. (2018) found that neglectful parenting was positively associated with PIU. Parental neglect is another

contributing factor to delinquency, a number of studies have indicated a strong positive association between poor parental supervision of Internet use and PIU in adolescents (Awaluddin et al., 2019; Karaer & Akdemir, 2019). Poor, as well as excessive, parental monitoring has equally proven to be a potent predictive factor of PIU (Faltýnková et al., 2020). Bada et al (2023) found that problematic internet use was found to be present in 80.8% of the participants in a study, the authors stated further that a plausible explanation for this level of PIU could be the ever-increasing accessibility and ubiquity of smartphones and other Internet-enabled devices.

Parenting styles also contribute significantly to propensity to be delinquent. Children of parents who adopted permissive and authoritarian parenting techniques were found to be more prone to be more delinquent, as opposed to those with parents that adopted authoritative techniques (Cheung et al., 2015). This discrepancy is primarily attributable to the youth's perception of parents as legitimate authority figures, which is frequently the case in authoritative parenting contexts (Trinkner et al., 2012). The collaborative nature of authoritative parenting, which is marked by bidirectional parent-child interactions, adequate discipline, warmth, responsiveness, and clear, often negotiable, expectations, lends it the reputation as the parenting technique with the most favourable outcomes regarding raising non-delinquent adolescents (Calafat et al., 2014).

In a study on the interaction between parenting style and violent behaviour among children and adolescents, the cases of Michael Brown and Brock Turner (18 and 20 years of age, respectively) were cited as examples of ineffective and possibly permissive indulgent or permissive neglectful parenting styles (Johnson, 2016). Johnson attempted to highlight and logically explicate some manifest signs of permissiveness, neglect, and indulgence in the attitude of the parents concerned by noting how they flimsily and unconvincingly justified the violent actions of their children, which included rape, armed robbery, and drug use all of which are major forms of delinquency. In the same vein, inappropriate, ill-suited parenting styles marked by excessive control and a lack of warmth retain the potentiality for PIU (Hsieh et al., 2018; Li et al., 2021).

Another study investigated how certain aspects of parenting, including positive involvement, supervision and monitoring, and the use of positive parenting techniques, all individually and collectively interact to determine the quality of adolescents that are raised in terms of the prosocial and antisocial tendencies and behaviours they develop (Wallace, 2023). (Padilla-Worker & Son, 2019), and adolescents whose parents actively solicit information about their whereabouts and what they are up to (monitoring and supervision) seem to have fewer opportunities to engage in delinquent activities (Janssen et al., 2017). The same is true for PIU and the foregoing positive parenting correlates: Li et al. (2018) found that children who enjoyed better interaction with their parents were less likely to have problematic gaming tendencies;

Peer influence is another crucial factor that helps to explain how delinquency develops and is maintained. It has remained an active subject of inquiry for more than a century and, although a lot of debate still exists around the nature of the relationship between peer relations and delinquency, many empirical findings point to it being one of causality. However, strong scepticism about a causal relationship has concurrently persisted (McGroin & Thomas, 2019). Yusuf and colleagues (2021), for example, found that adolescents in a remand home in Lagos reported having been influenced by friends who were also delinquent. In another study, risky social media use (a subset of PIU) was found to be positively correlated with peer pressure and negatively correlated with peer support (Leijse et al., 2023). In a study involving Chinese students, it was found that adolescent-peer conflict relationships and conflict with teachers persistently predicted PIU, especially among secondary school students. This finding highlights the pivotal role of peer relationships in the development of PIU (Hayixibayi et al., 2021).

Societal structure and economic contexts can also be crucial in determining individuals' attitudes and disposition to delinquency and susceptibility to PIU. Deteriorated and low-brow neighbourhoods and slums, where direct exposure to violence is commonplace including gun handling, gang fights, armed robbery, burglary, arson, and other vices and criminal activities see increased levels of delinquency in youth (Ahmed & Murtaza, 2016). It is also worth noting that delinquent adolescents often struggle in school. To illustrate, Margari et al.'s (2015) study found that 52% of the adolescents who were identified as delinquent were having academic challenges; conversely, other studies have indicated that adolescents with PIU also struggle academically (Evcil & Yurtsever, 2018; Marín Vila et al., 2018). Economic constraint, poverty, and inadequate access to proper education and basic amenities have likewise been established as potent

contributors to delinquency in youth in families with barely enough wherewithal to cater to their daily necessities (Low et al., 2012). A study which investigated the interrelationship between socioeconomic status and delinquent behaviour in boys found that delinquency decreases as socio-economic status improves (Rekker et al., 2015).

Understandably, socio-economic challenges and deprivation often have multifaceted implications that contribute to the exacerbation of antisocial behaviour. Shong and colleagues (2018) suggest that delinquency is, more often than not, a low socio-economic class problem and is commonly precipitated by poverty and unfavourable living conditions which breed problematic behaviour. Literature, however, presents mixed findings regarding the role of family/household income level in the development of PIU. For example, one study found income level to be negatively associated with PIU (Leung & Lee, 2012). Another suggested a positive relationship between PIU and income level (Ak et al., 2013). In addition to being in a family experiencing severe conflict and dysfunction, adolescents from low-income homes have been observed to be more vulnerable to PIU than their counterparts from wealthier homes (Wu et al., 2016).

Theoretical Framework

1. Social Learning Theory

From a psychological standpoint, social learning theories posit that, regarding crime and delinquency, criminal behaviour is learnt through association with others and is principally influenced by socialization processes. Learning to commit crime involves a process similar to learning to conform to societal rules. Ronald Akers' model of social learning theory underpins most of the theorizing and conceptualisations with which delinquency is examined and understood (Akers & Sellers, 2009). Individuals adolescents, in this case are disposed to be delinquent when four conditions are met: a) criminal behaviour is differentially reinforced, b) certain beliefs which are conducive to crime or present it as a tenable alternative are held, c) presence of criminals models who are admirable to some degree, primarily because of the reinforcements they get from committing crime, and d) differential association, either directly or symbolically, with these models or other criminally disposed individuals (Akers, 1988).

When these conditions are fulfilled (that is, adolescents are frequently reinforced and infrequently or inconsistently punished for perpetrating delinquency; hold certain beliefs and values that make criminal acts seem circumstantially favourable and advantageous, therefore seemingly elevating their utility; and are exposed to delinquent, criminal models whose behaviour gets reinforced from time to time) criminal behaviour is likely to be performed. This explains why adolescents may copy their friends' delinquent behaviours, seeing that these behaviours are socially reinforced both by friends and others outside their circle.

2. Control (Social Bond) Theory

Among theories that have attempted to explain the origin and cause of criminality is the sociological perspective that includes a broader look into aspects of the society and culture that may facilitate or sponsor criminality. It takes a careful look at various levels of the society, such as the family, peers, schools, religious institutions, and the socio-economic and political climate. An example that reflects the sociological perspective is Hirschi's control or social bond theory.

Hirschi's (1969) position was that youths who have a stake or some form of advantage in conforming to conventional that is, non-delinquent social values and enjoy a warm, intact bond with the society are less likely to be delinquent. He cited boy scouts, girl scouts, and youth church choristers as examples of individuals who have an intact social bond and, on account of their connection to a cohesive unit of society, are controlled by relational restraints. This category of people is contrasted with individuals who have little or no stake or advantage in conforming to conventional values and, therefore, experience a weak or broken bond with society. They tend to be delinquent and have strained relationships with family members, express stark disinterest in school, and experience inadequate and/or inappropriate peer relations, and their delinquency is reinforced by their detachment or minimal adherence to social values.

Methodology

1. Research Design

A cross-sectional research design was adopted in the study making use of purposive sampling technique to recruit 386 participants comprising of 191 males (49.5%) and 195 females (50.5%) ranging from 16-27 years. During the course of carrying out the study, seeking the consent of the participants was of paramount importance to the researcher and participants were informed that participation was absolutely voluntary and anonymous.

Scoring for the instrument was done based on the scoring manuals developed for the instruments used. Responses on the scale were then coded into Statistical Product and Service Solutions (SPSS) v29 to generate both the descriptive and inferential statistics to test the hypotheses. Descriptive analysis for mean and standard deviation was conducted as well as independent sample t-test were computed to test the hypotheses.

2. Instruments

Disciplinary and Delinquency Behavior SAGE Baseline Survey, which was developed by Straus and modified by Flewelling et al (1993). In this study, it was used to measure the prevalence and recency of adolescent delinquent activity. The original version consists of nine items and was tested initially with an American youth population between the ages of 12–17 (Ringwalt et al., 1996). However, in this study, this scale was adapted to ensure its suitability for this research context. Three items were modified: Item 2, which read "Stole something worth more than $50?" was reworded to fit the current research context, and the amount in question was converted to its equivalent in the Nigerian Naira as at the time of this study, i.e., $50 to ₦23,000. Furthermore, items 4 and 5 were removed due to the sensitivity of the questions asked. After necessary adaptation measures were taken, the scale's original total of nine items was reduced to seven, which collectively had a Cronbach's α of .421 and an inter-item correlation of .136

3. Data Collection and Analysis

Questionnaire an instrument co-authored by.Demetrovics et al (2008) containing 18 items was the second instrument used in the study. It has a Likert response format with each item rated on a 5-point scale ranging from Never (1) to Always (5) with a cronbach alpha of .87. Adebowale & Omoyemiju, (2023) reported test-retest score of .90 when used among the Nigerian population. Higher score on the scale represents participants with possible problematic internet use (PIU).

Findings

This section presents the result obtained from this study alongside with the interpretations of the result. Results in the table below revealed the mean, range, and standard deviation of participants' scores on Problematic Internet use (PIU) (M = 51.80, SD = 12.09), and adolescent delinquency (M = 12.54, SD = 3.90).

Table 1. Summary of descriptive statistics of variables in the study

	N	Mean	Std. Deviation
PIU Score	386	51.80	12.09
Adolescent Delinquency	386	12.54	3.90
Valid N (listwise)	386		

Results from this table show that 312 participants (80.8%) demonstrated PIU compared to 74 (19.2%) participants who demonstrated average Internet use. A cut-off score of 41 was used to dichotomize Internet use into average and problematic categories, in adherence to suggestions from the developers of the Problematic Internet Use Questionnaire (PIUQ) (Mazhari, 2012).

Table 2. Prevalence of problematic internet use of participants in the study (PIU)

		Frequency	Percent	Valid Percent
Valid	Average Internet Use (PIU ≤41)	74	19.2	19.2
	Problematic Internet Use (PIU >41)	312	80.8	80.8
	Total	386	100.0	100.0

Hypothesis 1: There will be a significant difference in the score for past-year delinquency and present-year delinquency among emerging adults.

Table 3. Test for Independent Samples Showing the Difference in PIU and Delinquency based on Recency (Past-Year/Present-Year)

	Delinquency	N	M	SD	t	df	P
PIU Score	Past-year Delinquency	268	51.27	11.94	-1.297	384	>.05
	Present-year Delinquency	118	53.01	12.39			

Results from an independent-samples test indicated that there was no significant difference between the PIU scores of participants who engaged in delinquent activities in the past year (M = 51.27, SD = 11.94) and present year (M = 53.01, SD = 12.39), [*t* (384) = -1.297 *p*> .05]. By implication, problematic Internet use is not linked to higher delinquency.

Hypothesis 2: Participants in households that earn more (above ₦150,000) will be more delinquent than those in households that earn less (below ₦150,000).

Table 4. An Independent-samples T-test for the differences in delinquency based on household income

Household Income (Monthly)		N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Delinquency	Below ₦150,000	138	12.07	3.976	-1.931	384	>.05
	Above ₦150,000	273	12.88	3.84			

Results from this table showed that there was no significant difference between the Delinquency scores of household Income below ₦150,000 (M = 12.07, SD = 3.976) and household Income above ₦150,000 (M = 12.88, SD = 12.3.84) adolescents, [*t*(373) = -1.931, *p*> .05]. By implication, this result states that participants from higher earning households are not necessarily more delinquent than their counterparts from lower earning households.

Discussion

Delinquency was measured based on recency of delinquent activities and events, such as theft, damage of property, and truancy. Participants reported a higher percent of past-year delinquency as opposed to offending in the present year, and majority reported low levels of delinquency. Regarding the relationship between PIU and adolescent delinquency, the results obtained from this study suggested that PIU did not predict delinquency among the participants. Although not many studies have explored the direct relationship between PIU and delinquency, a handful of investigations have linked PIU to problematic online behaviours (De Leo & Wulfert, 2013), which have, in turn, been linked with offline delinquency (Kowalski & Limber, 2013; Wong et al., 2014).

Our results, however, did not highlight any significant relationships between PIU and delinquency. It is plausible that PIU corresponds more strongly and naturally with delinquency in online/virtual contexts together with problematic online behaviours, such as cyberbullying, online consumption of explicit sexual or

violent content, and illegal downloads, as opposed to offline delinquency, such as destroying properties, drug use, and alcohol intake (De Leo & Wulfert, 2013).

Literature in this domain indeed points to a likely association between PIU and delinquency seeing that PIU readily correlates with several risk factors for delinquency (Ingram et al., 2019; Müller et al., 2021), and has also been strongly associated to forms of delinquency, such as drug use (Kaess et al., 2021), truancy (Chao et al., 2020; Kaess et al., 2021), and aggressive behaviour (Odacı & Çelik, 2013). However, these correlations did not reflect in this study's findings, possibly because the scale deployed in this study to measure delinquency only took into account a relatively narrow bracket of the forms of delinquency. Further research, therefore, is needed to definitively establish if a more direct relationship exists between these variables, whilst examining a broader range of delinquent activities which were not considered in this study.

Additionally, it was hypothesised that participants in higher earning households would be more delinquent than those in lower earning ones. Results from the study found that both contingents of respondents, that is, those from higher earning and lower earning households, are equally as delinquent as the other, although this discovery is in stark contrast to the consensus across past studies on the close link between lower socioeconomic or low-income households or families and increased delinquency levels (Devenish et al., 2017; Piotrowska et al., 2015).

Studies across the United States and Europe have corroborated this interaction between income level and delinquency: a group of Norwegian children from lower income households were found to be five times more likely to commit drug or violence-related crimes than their wealthier counterparts (Galloway & Skardhamar, 2010), similar to Connolly et al.'s (2017) finding, where low income predicted delinquency across rural and urban neighbourhoods, nevertheless having more a pronounced impact in the latter.

In a large Swedish study, thorough, painstaking methodologies were deployed to control for potential, frequently unobserved biases attendant in assessing the link between income level and proneness to delinquency and, although some excesses were eliminated, the long-established link reasserted itself, and children from low-income homes were found to have greater delinquent tendencies, in conjunction with other factors such as environmental and familial factors (Sariaslan et al., 2014). This study's contradictory submission may be logically traced back to the cut-off income adopted in this study that is, ₦150,000. Perhaps a larger amount would have more sufficiently accentuated the discrepancy between the high and low earners, and, in that way, excluded other confounding variables.

Conclusion

It was observed that delinquent activities were found to have been more prevalent in the past year compared to the present. PIU neither sufficiently predicted nor was associated with adolescent delinquency; adolescents with PIU did not report more frequent or recent delinquent activity than those with average Internet usage. Moreover, level of delinquency didn't predict PIU. Further research, therefore, is needed to definitively establish if a more direct relationship exists between these variables, whilst examining a broader range of delinquent activities which were not considered in this study.

Furthermore, future studies can explore using qualitative research techniques such as interviews and focus groups to thoroughly investigate how digitalization impacts the likelihood of delinquent behaviour in young adults. This method can provide a more thorough insight into their viewpoints and experiences. Also, they can examine and contrast the impact of digitalization on delinquency among young adults in various cultural and societal environments. This comparative analysis can help pinpoint specific factors that contribute to the risk of delinquent behaviour in the digital age. However, no study is without limitations one of which the study is that it focuses more on just emerging adulthood which limit how the result can be generalized to other age group-based population, secondly, the research was done in a university setting which can influence how he result can be generalised to other population.

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