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From Connection to Compulsion: Exploring Internet Addiction in Moroccan High Schools

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ABSTRACT

From Morocco to New York, experts are sounding the alarm: Internet addiction is no longer just a bad habit it's a life disrupting disorder. Internet Addiction Disorder (IAD) rewires the brain, fuels anxiety, and damages relationships, making it one of the most urgent yet underestimated crises of the digital age. As Internet access expands in Morocco, Internet addiction is emerging as a significant issue, particularly among the younger generation. This study outlines a method to assess the level of Internet addiction among Moroccan high school students. The primary aim is to analyze students' Internet usage and examine the correlation between excessive use and addictive tendencies. Longitudinal Structured Observation and the Internet Addiction Test (IAT) were employed to evaluate the severity of addictive behavior. The findings suggest that Moroccan youth are indeed vulnerable to Internet addiction.

INTRODUCTION

The conceptualization of Internet addiction (IA) traces its origins to Ivan Goldberg, an American psychiatric researcher. Subsequently, psychologist Kimberly Young (1998) operationalized IA as a non-substance-related behavioral control disorder characterized by compulsive internet use. Although IA has since been investigated across psychological and psychiatric frameworks, consensus on its precise definition remains unresolved, with ongoing scholarly debate regarding diagnostic criteria and nomenclature (Shapira *et al.,* 2000). In contemporary literature, IA is broadly defined as persistent and maladaptive patterns of internet engagement, marked by cognitive preoccupation and behavioral dysregulation, culminating in clinically significant functional impairment (Dong *et al.*, 2013).

Epidemiological data underscore the growing public health relevance of IA, particularly in high-penetration regions such as China, where internet access exceeds 94.9% of the population (China Internet Network Information Center, 2020). Notably, prevalence studies indicate that 17.3% of adolescent internet users meet thresholds for psychological dependency (CNKI, 2021), a condition associated with deleterious psychosocial outcomes, including social withdrawal (Kato *et al.*, 2020), heightened suicidality (Guo *et al.,* 2020), and comorbid behavioral dysfunctions.

The swift progression of the digital landscape has notably reshaped how people communicate, with adolescents at the forefront of this shift through their extensive use of mobile applications to maintain social connections (García-Santillán & Espinosa-Ramos, 2021). In a comparative study, Leiva *et al.* (2017) examined Hispanic youth in Chile, Mexico, and the United States, identifying three key user archetypes—"always connected," "entertained," and "safe." These categories reflect distinct patterns in smartphone usage, social media habits, and the value users assign to digital content.

Emerging research has also raised important concerns about mobile phone dependence. For instance, Carbonell *et al.* (2018), through a survey of over 700 university students, observed a rise in the use of social media and music apps, emphasizing the need to consider the technological evolution from basic mobile phones to today's internet-enabled smartphones. In the South Korean context, Cha and Seo (2018) found that while demographic factors were not predictive of mobile phone addiction, excessive use was closely tied to stress relief and feelings of loneliness and social isolation.

In Australia, Oviedo Trespalacios *et al.* (2019) highlighted anxiety as a key factor associated with problematic phone use, noting its correlation with unsafe behaviors such as texting while drivinga pattern particularly prevalent among women aged 18 to 25. Overall, mobile phones have become deeply integrated into everyday life, with younger generations increasingly relying on them as their main source of news and information (Albarello, 2020). This section provides an overview of key concepts relevant to the present research, focusing particularly on validated tools used to assess Internet addiction.

Uy *et al.* (2025) developed a multi-factorial scale to assess fear of happiness in young adults, a trait that may

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be exacerbated by problematic internet use. Excessive online engagement can heighten emotional avoidance, as individuals associate happiness with potential loss or judgment. Understanding this link can help address the psychological impacts of internet addiction on well-being. In today's digital world, excessive internet use can disrupt the mental health and balance of teachers and students alike. As Turla *et al.* (2025) emphasize, recognizing how digital habits impact personal and professional fulfillment is key to fostering a well-lived life and a supportive educational environment.

The Internet Addiction Test (IAT) is a widely used instrument designed to assess the severity of internet use. Developed using a Likert scale, the IAT evaluates various aspects of an individual's life, including daily routines, social interactions, work or academic performance, and emotional well-being. The total score reflects the extent of internet addiction, with higher scores indicating more problematic use. The IAT has been subjected to numerous studies that confirm its reliability and validity, making it a dependable tool for assessing internet addiction (Widyanto & McMurran, 2004).

While the Internet Addiction Test (IAT) is widely used to assess problematic internet use (PIU) (Young, 1998), its reliance on self-reports may overlook contextual behavioral patterns. For instance, students might underreport addictive tendencies due to social desirability bias or lack of self-awareness (Kuss & Griffiths, 2015). Conversely, structured observations in natural settings (e.g., classrooms) can capture real-time behaviors (e.g., frequent phone-checking, irritability when separated from devices) but risk subjective interpretation. Few studies have cross-validated these methods to determine whether observed behaviors align with IAT scores, especially in non-Western educational contexts like Morocco.

This study hypothesizes that:

1. Higher IAT scores will significantly correlate with observable problematic behaviors (e.g., distraction during class, social isolation).
2. Behavioral indicators (e.g., academic decline) will predict severe internet addiction as classified by the IAT threshold (scores ≥80).

To test this, observational data were analyzed thematically to identify trends in students' digital behavior and cross-referenced with IAT scores. This mixed-methods approach aims to bridge the gap between behavioral evidence and diagnostic thresholds, offering insights for targeted school-based interventions.

MATERIALS AND METHODS

Research Design

This study adopted a sequential mixed-methods design, beginning with a longitudinal observational phase, followed by the administration of a standardized diagnostic instrument. This approach allowed for the integration of behavioral data collected over an academic year with self-reported measures of internet use to yield a more comprehensive understanding of students' digital behaviors and their potential links to internet addiction.

Participants

The research involved a total of 189 secondary school students. Participants were observed in their natural school environment across various disciplines and academic levels. Inclusion was based on availability and continuity of attendance throughout the academic year.

Longitudinal Structured Observation

During the year-long observational phase, students' behaviors related to mobile phone and internet use were systematically recorded using a standardized observation grid at four critical points in the academic calendar. The observation focused on key behavioral indicators associated with problematic technology use, including:

- Frequent checking of smartphones during class, disrupting engagement with instructional activities.
- Difficulty maintaining concentration, directly linked to distractions caused by phone use.
- Signs of chronic fatigue or sleepiness in class, potentially reflecting poor sleep hygiene influenced by excessive screen time.
- Social withdrawal during breaks, where students isolate themselves, often engrossed with their phones rather than interacting with peers.
- Irritability or distress when mobile phones are confiscated, indicating dependency and emotional reactions tied to device access.
- A progressive decline in academic performance, observed over time and potentially correlated with excessive digital engagement.

Trained observers recorded both quantitative indicators and qualitative field notes, ensuring consistency and validity across observation points. The goal of this phase was to identify emerging behavioral patterns potentially associated with excessive or maladaptive technology use.

Internet Addiction Test (IAT)

Following the observational phase, all 189 students completed the Internet Addiction Test (IAT), developed by Young (1998). This 20-item self-report questionnaire measures the severity of internet addiction on a 5-point Likert scale (1 = "rarely" to 5 = "always"), with total scores ranging from 20 to 100.

The IAT addresses cognitive, emotional, and behavioral components of internet use, including:

- Compulsive use and time loss,
- Neglect of academic, social, or personal responsibilities,
- Withdrawal symptoms when offline,
- Mood alteration and social isolation.

Based on total scores, participants were categorized according to established thresholds:

- 20–49: Normal internet use,
- 50–79: Moderate internet dependency,
- 80–100: Severe internet addiction.

The IAT has been shown to have high internal consistency and construct validity, making it a reliable

post-observational measure of problematic internet use (Widyanto & McMurran, 2004).

Data Analysis

Observational data were analyzed thematically and used to identify trends over time in students' digital behavior. These findings were then cross-referenced with the IAT scores to explore possible correlations between observable behavioral changes and self-reported internet addiction.

RESULTS AND DISCUSSION

Longitudinal Structured Observation

The data reveals that smartphone-related behaviors among students are both widespread and multifaceted, with an average of 54.17% of students frequently or very frequently engaging in such actions, alongside a notable standard deviation of 17.6%, indicating substantial variability across different cases.

The most prevalent behavior is checking smartphones during class (86%), highlighting its normalization as a habitual practice. Additionally, a significant portion of students report difficulty concentrating (59%) and chronic fatigue or drowsiness (50%), suggesting cognitive and physical repercussions linked to excessive phone use. Emotional and social effects are also observable, with 46% experiencing isolation during breaks and 34% displaying irritability when separated from their devices, pointing to potential dependency issues. Most critically, half of the students (50%) acknowledge a gradual decline in academic performance, emphasizing the broader educational consequences of unregulated smartphone use. These findings illustrate the pervasive influence of smartphones on student behavior, spanning attentional, emotional, and scholastic domains, thereby necessitating further investigation into effective intervention strategies.

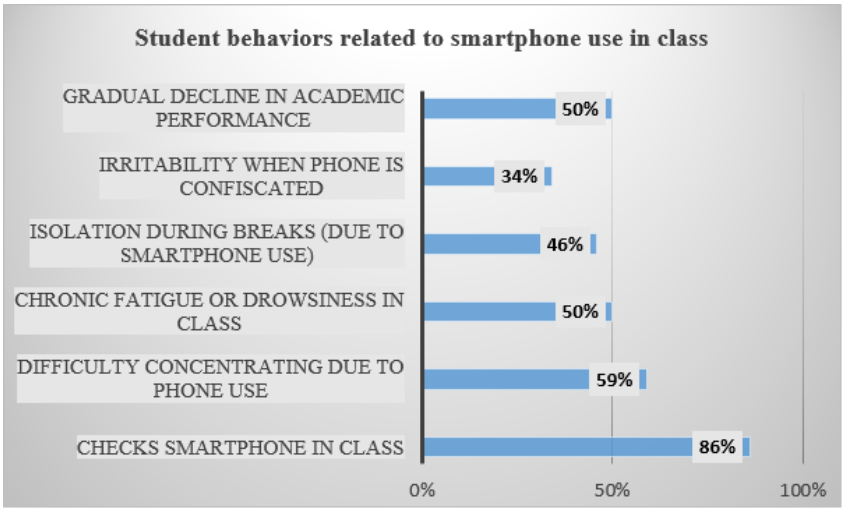

Figure 1: Student behaviors related to smartphone use in class

It's clear from the data that students' smartphone habits are deeply woven into their daily classroom experience. On any given day, more than half of students (54%) find themselves repeatedly distracted by their devices, though this varies significantly from one case to another. The numbers tell a revealing story: a striking 86% of students admit to checking their phones during class, almost like an automatic reflex they can't control.

But the impact goes far beyond just glances at a screen. Many students (59%) report struggling to focus, while half feel constantly tired - signs that constant connectivity might be draining their mental energy. There's an emotional toll too, with nearly half (46%) feeling oddly isolated even when surrounded by peers during breaks, and about a third (34%) getting noticeably irritable when separated from their phones. Perhaps most concerning is that 50% of students see their grades slipping over time, suggesting these aren't just harmless habits but behaviors with real academic consequences.

These patterns paint a picture of a generation caught between digital dependency and educational demands, where the simple act of putting down a phone becomes an unexpected challenge. The findings raise important questions about how schools and students can find a healthier balance with technology.

The Internet Addiction Test (IAT)

The analysis of the IAT results reveals a significant dominance of "Always" responses (80.6%) across the 20 items. This overwhelming trend indicates a strong presence of repetitive or even compulsive Internet use behaviors among the students. In contrast, "Rarely" responses represent only 6.7%, suggesting that few participants identified with moderate or limited usage patterns. This global distribution is consistent with findings from previous studies (Young, 1998; Kuss & Griffiths, 2015), and may be interpreted as a concerning signal of Internet overuse in educational settings where digital access is widespread but often poorly regulated.

The Internet Addiction Test (IAT) results show a clear tendency among the surveyed students to engage in frequent Internet use. As depicted in the pie chart below, "Always" responses account for 80.6% of all answers

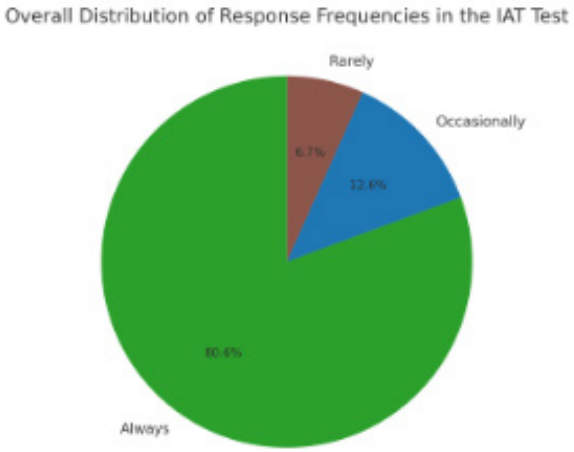

Figure 2: Overall distribution of response frequencies in the IAT test

across the 20 items, followed by "Occasionally" (12.6%) and "Rarely" (6.7%).

This dominance of "Always" responses suggests a high level of habitual or compulsive behavior related to Internet use among the participants. The very limited proportion of "Rarely" responses indicates that only a small minority of students exhibit a low frequency of these behaviors. This aligns with existing research (Young, 1998; Kuss & Griffiths, 2015), which emphasizes the growing prevalence of Internet dependency among adolescents, especially in educational environments with easy but often unregulated digital access.

The relationship between the observational and IAT results demonstrates a strong, consistent pattern of Internet addiction among Moroccan high school students. The observational data provided real-world evidence of behaviors associated with addiction, while the IAT confirmed these patterns through self-reported compulsive use. Together, these findings suggest that,Internet addiction is prevalent and multifaceted, affecting students' academic, social, and emotional well-being. Also,the normalization of excessive smartphone use in educational settings poses significant challenges, requiring targeted interventions to promote healthier digital habits.Therfore, combination of observational and self-report methods offers a comprehensive approach to diagnosing and addressing Internet addiction, as it captures both external behaviors and internal perceptions of dependency.This dual-method approach not only validates the study's conclusions but also highlights the urgent need for awareness and policy measures to mitigate the impact of Internet addiction on Moroccan youth.

CONCLUSION

This study examined Internet addiction among Moroccan high school students through longitudinal observation and the IAT. The results revealed widespread compulsive Internet use (80.6% "Always" responses on IAT) and frequent classroom disruptions (86% smartphone use). Key impacts included declining academic performance (50%), difficulty concentrating (59%), and social withdrawal (46%). The convergence of observational and self-reported data confirms significant Internet dependency, highlighting the need for structured interventions to promote healthier digital habits. Further research should explore demographic variations to refine targeted solutions. Addressing this issue requires collaboration between schools, families, and policymakers to mitigate its educational and psychosocial effects.

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