Unravelling the Complexity of Addiction to Social Networking Sites: A Multidimensional Analysis

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Abstract. Information behaviour and social network sites addiction (hereafter referred to as SNS addiction) are two concepts that have become increasingly relevant in the digital age. Information behaviour refers to how individuals seek, access, evaluate, and use information to meet their goals. These two concepts can be interconnected. Individuals who exhibit addictive tendencies may excessively and compulsively use social networks to obtain information or social approval, which can be reinforced by the constant availability of information and social connections. This study aimed to investigate the multidimensional nature of SNS addiction by examining socio-demographic characteristics, personal, spatiotemporal, environmental, and task contexts. A cross-sectional survey was conducted among 174 users to assess addiction levels and explore related factors. The Addiction Severity Index (ASI) was used to classify participants into four levels. Data analysis included cross-tabulations, frequency counts, and chi-square tests. The results revealed that 41% of participants were classified as SNS addicts, suggesting a significant prevalence of this behaviour. No significant differences were found in addiction levels based on gender and age groups. In terms of individual context, those classified as addicts demonstrated excessive involvement in activities such as media viewing, content rating, and private messaging. In conclusion, this thorough analysis emphasizes the intricate, multifaceted nature of the phenomenon and underscores the importance of considering contextual factors when designing effective interventions. Understanding the intricate dynamics of SNS addiction can inform the development of effective strategies for healthier patterns of usage of information.

Keywords: information behaviour, digital well-being, digital addiction, social media.

1 INTRODUCTION

The problematic use of SNS has recently emerged as a critical issue affecting individuals' daily lives. It has been also reported to have adverse outcomes, such as decreased work productivity, heightened depressive symptoms, and negative social interactions (Sun & Zhang, 2021).

A considerable amount of research has been conducted on SNS addiction from a social science perspective utilizing the uses and gratification theory (Cai & Wohn, 2019). Yet, there remains a noticeable gap in comprehending the phenomenon from a software computing perspective (Cheng et al., 2021). Furthermore, the current literature has primarily focused on developing addiction measurement scales (Karim et al., 2023; Wong et al., 2023), while the exploration of intervention systems (Bottel et al., 2023; James et al., 2022; Cheng et al., 2021) has been largely overlooked or lack scientific credibility (Almourad et al., 2021). Hence, there is a need for

further research that examines the role of information systems and explores the development of effective intervention strategies.

To address the gaps in the literature, the present study aims to extend previous research by adopting an activity theory perspective to examine additional factors contributing to this behaviour. Specifically, the study will focus on elucidating the role of software functionalities, such as specific features of SNS platforms. Additionally, the study seeks to explore users' perceptions and experiences regarding E-health interventions. Although some studies (Hue et al., 2022; Bossen & Kottasz, 2020) have briefly investigated similar aspects, such as usage styles, motivations, and functional features, they did not specifically assess their roles in DA. Therefore, this research will target individuals who exhibit such symptoms to gain deeper insights.

This study aims to provide an understanding of SNS addiction from a usage perspective. The insights gained from this research will aid in the development of effective intervention strategies and the design of user-centric software features to address the growing concern of this behavioural addiction.

To achieve the research objectives, a survey study was conducted. The survey was designed to: i) identify specific features of SNS that are more likely to contribute to addiction, ii) explore users' preferences regarding the software-based strategies they would prefer to have available through intervention systems. Furthermore, the survey data will be analyzed to determine correlations between addiction levels and various aspects to uncover potential relationships and patterns.

The primary objectives of this research are twofold. Firstly, we aim to understand information excessive use, from the perspective of social software design. By examining the addictive attributes that influence user interactions, we seek to investigate the role of contextual factors and triggering cues that contribute to the development of addictive behaviours. Secondly, we aim to gain insights into the perspectives of end-users regarding E-health intervention techniques. Through meticulous analysis of users' perceptions and expectations, we aim to discern their attitudes towards intervention strategies. By comprehending users' perspectives, the design of intervention techniques can be optimized, ensuring they resonate with the needs and preferences of those struggling with digital addiction.

2 RESEARCH DESIGN

The survey used in this study consists of two parts. The first one aims to gather important demographic information from participants to provide context for subsequent analysis. The second one investigates participants' SNS activities, leveraging the context model proposed by Kofod-Petersen and Cassens (2005) as a guiding framework. The degree of addiction can be contextualized to the individual's circumstances. The spatiotemporal context considers factors such as time and location, which significantly impact user behaviour. The environmental context involves an assessment of the software products and associated technologies. Furthermore, the task context examines the activities undertaken when accessing the information on cyberspace, including users' motivations and preferences towards intervention systems. The integration of intervention strategies within the task context is founded on their potential to offer explicit or implicit guidelines that regulate usage. Kofod-Petersen and Cassens (2005) describe rules as the "accumulation of knowledge about how to do something," and this construct is central to the design of effective intervention strategies.

To capture the various components of the context model, the survey is structured as follows:

- Personal context: This section employs the Internet Addiction scale proposed by Young (2008; 2014) to assess participants' levels of DA.

- Spatio-temporal context: Participants are asked to identify the most frequented timeframes and locations of their SNS platform usage.
- Environmental context: This dimension aims to capture relevant technological aspects, including the specific SNS platform, browser types, and type of devices used for accessing SNS.
- Task context: Participants are encouraged to describe the specific activities they used while interacting with SNS, as well as provide insights into their motivations for such activities.
- Social context: Participants are asked to express their preferences for features they would like to be included in DA intervention systems.

Furthermore, to identify individuals exhibiting addictive behaviours, an addiction level test is used. The test categorizes individuals into four distinct categories: Normal, Mild, Moderate, and Severe.

- Normal (0 - 30 points): It represents users with full control over their usage.
- Mild (31- 49 points): It indicates average SNS usage, with occasional extended periods of surfing but maintaining control over usage.
- Moderate (50 - 79 points): It suggests the presence of occasional or frequent problems arising from SNS usage, necessitating a thorough evaluation of its impact on one's life.
- Severe (80 - 100 points): It suggests significant problems arising from social networking usage, urging participants to critically assess the impact of SNS on their lives and directly address the issues stemming from excessive usage).

This test was chosen based on a set of criteria, including reliability and validity across diverse age groups, cross-cultural applicability, utilization and validation in other studies, comprehensive coverage of problematic internet use aspects, a concise format suitable for time-limited surveys, and provision of clear cut-off scores. The original instrument's label, "Internet" Addiction, was appropriately modified into SNS Addiction to align with the focus of the study (Alotaibi et al., 2022).

This research design aims to unravel the complexities of DA, by exploring the role of software factors, usage styles, and intervention strategies. Through this investigation, we aspire to enhance our understanding of DA and pave the way towards developing effective mitigation strategies.

3 RESEARCH METHOD

3.1. Survey ethics, design, test, and distribution

The survey materials were carefully reviewed through an ethical review process, ensuring compliance with ethical guidelines. To facilitate data collection, an online survey was utilized. The survey questionnaire comprised 17 open-ended and closed-ended questions. The survey was divided into five sections:

1. Participants' Demographic Information which includes gender, age group, country of residence, education level, and employment status.
2. Addiction Level Test to assess participants' addiction levels using a robust measurement instrument (Young, 2008), drawing upon the work of Young (2014).
3. Social Networking Usage to determine the primary SNS used by participants and gain insights into the influence of spatiotemporal context.

4. Social Software Features to identify the participants' usage style.

Software-based strategies for regulating usage to elicit participants' opinions and preferences and identify avenues for intervention.

3.2 Sampling

The research utilized different sampling techniques to assemble a diverse and representative participant pool. In this study, convenience sampling was initially employed by recruiting participants from the United Kingdom. To expand the pool of potential participants, a saturation technique was adopted by distributing the questionnaire to an email list of Bournemouth University students. To further enhance the sample size, snowball sampling was utilized to recruit participants from Liverpool University and the University of East Anglia. Popular platforms such as Facebook and LinkedIn groups were also targeted to attract additional participants. To ensure a geographically focused sample, GeoIP technology was employed to exclude participants outside the United Kingdom.

The combination of sampling methods used in this study resulted in recruiting 80 participants. To improve the representativeness of the sample, open populations consisting of pre-recruited UK participants were utilized. This sample was selected randomly through a research company specializing in questionnaire sampling. Although nonresponse is a potential concern in the sampling process, the use of pre-recruited panels helps to mitigate this issue as participants have already given their consent to participate (Ball, 2019).

To ensure adherence to the inclusion criteria, participants had to satisfy the following conditions: i) being regular users of SNS, ii) a minimum age of 18 years, iii) residency in the United Kingdom, and iv) proficiency in the English language. Before the analysis, data preparation was conducted, which entailed removing spam, incomplete responses, untrustworthy inputs, and inconsistencies. Additionally, an average survey completion time of 10 minutes was used as the threshold, ensuring that surveys falling below that were excluded.

4 RESULTS

The results below are discussed in relation to demographics, and SNS activities based on the context model which comprises personal, spatiotemporal, environmental, task, and social contexts.

4.1. Addiction levels and socio-demographic characteristics

To compare socio-demographic characteristics with addiction levels, a cross-tabulation analysis was carried out between the variables, generating a contingency table (Table 1). The sample size comprised 174 participants, consisting of 78 (44.83%) males and 96 (55.17%) females. Most participants fell into the age groups of 18-29 (46.55%) and 30-49 (48.85%) years.

Regarding education levels, 132 (75.86%) participants were enrolled in higher education, with 14.37% being undergraduate, 14.94% graduate, and 46.55% postgraduate students. A smaller proportion of the sample had A-level education (11.49%), a general certificate of secondary education (8.62%), and a few participants had vocational education or had not completed schooling (2.30% and 1.72%, respectively).

The employment status distribution revealed that 45.98% of the sample were full-time students, 29.89% were full-time employees, and the remaining 24.13% had different employment statuses, including those who were unable to work or were self-employed. The analysis of addiction levels revealed no statistically significant differences between males and females or

among the primary age groups (18-29 and 30-49). Participants aged 50-64 showed no signs of addiction. Severe addiction was mainly observed among full-time students and full-time employees.

Table 1. Levels of addiction and socio-demographic characteristics.

		Addiction levels					
Categories	Classes	Normal	Mild	Moderate	Severe	Total	(%)
Gender	Male	48	17	10	3	78	44.83
	Female	55	25	14	2	96	55.17
Age groups	12-17	0	0	1	0	1	0.57
	18-29	47	21	11	2	81	46.55
	30-49	49	21	12	3	85	48.85
	50-64	7	0	0	0	7	4.02
	65+	0	0	0	0	0	0.0
Education levels	No schooling completed	2	0	1	0	3	1.72
	General Certificate of secondary education	9	4	2	0	15	8.62
	A-Level education	8	3	8	1	20	11.49
	Undergraduate education	16	7	2	0	25	14.37
	Graduate Education	15	8	3	0	26	14.94
	Post-graduate education	52	19	7	3	81	46.55
	Vocational education	1	1	1	1	4	2.30
	Others	0	0	0	0	0	0.0
Employment status	Unable to work	6	1	1	0	8	4.60
	Part-time student	2	0	0	0	2	1.15
	Full-time student	49	18	11	2	80	45.98
	Recently graduated (looking for a job)	2	0	1	0	3	1.72
	Recently graduated (not looking for a job)	0	0	0	0	0	0.0
	Full-time employee	25	16	8	3	52	29.89
	Part-time employee	5	4	2	0	11	6.32
	Self-employed	7	1	0	0	8	4.60
	Retired	1	0	0	0	1	0.57
	Others	6	2	1	0	9	5.17

4.2. Personal context

Figure 1 illustrated the distribution of responses across four addiction levels. Using the DA test, 71 participants were identified as SNS addicts. The three groups exhibiting addiction symptoms (i.e., mild, moderate, and severe) were merged into a single category and labelled as Risk Group, which constituted 41% of the sample.

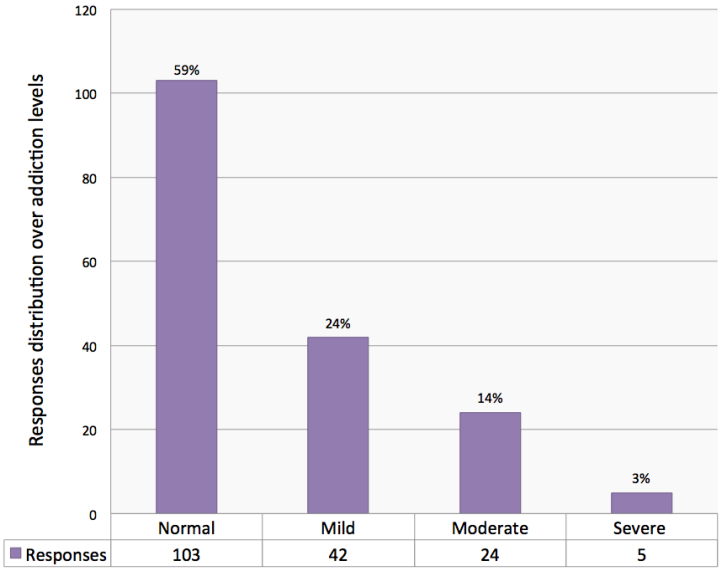


Fig. 1. Number of responses based on levels of addiction.

4.3. Spatio-temporal context

Understanding the temporal and spatial patterns of usage is crucial in developing effective e-health intervention strategies. By identifying peak usage times and locations, contextual factors can be considered and monitoring mechanisms can be informed. Figure 2 displays the preferred usage times of the Risk Group on both weekdays and weekends. The analysis revealed that most users did not exhibit a specific time preference for SNS usage. Nevertheless, evenings emerged as the second most popular time for SNS usage, indicating a potential opportunity for targeted interventions during these hours. Further research is needed to examine the underlying reasons behind these patterns and to explore the effectiveness of tailored interventions during peak usage times.

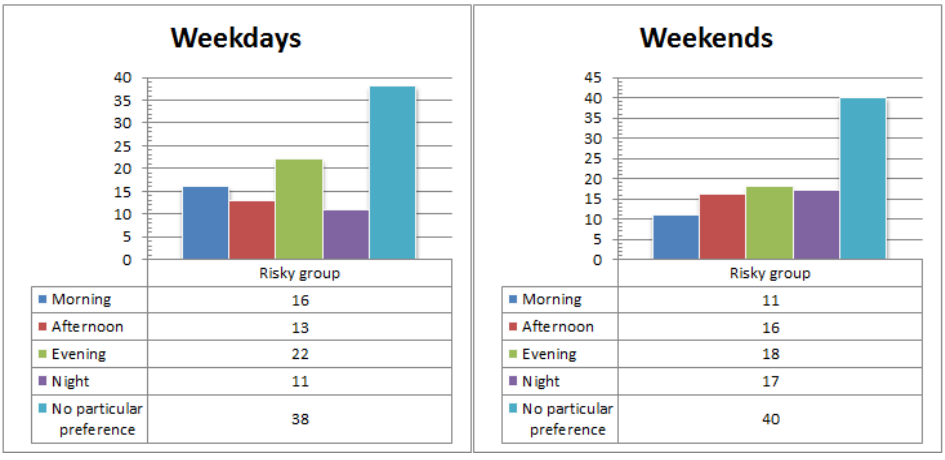
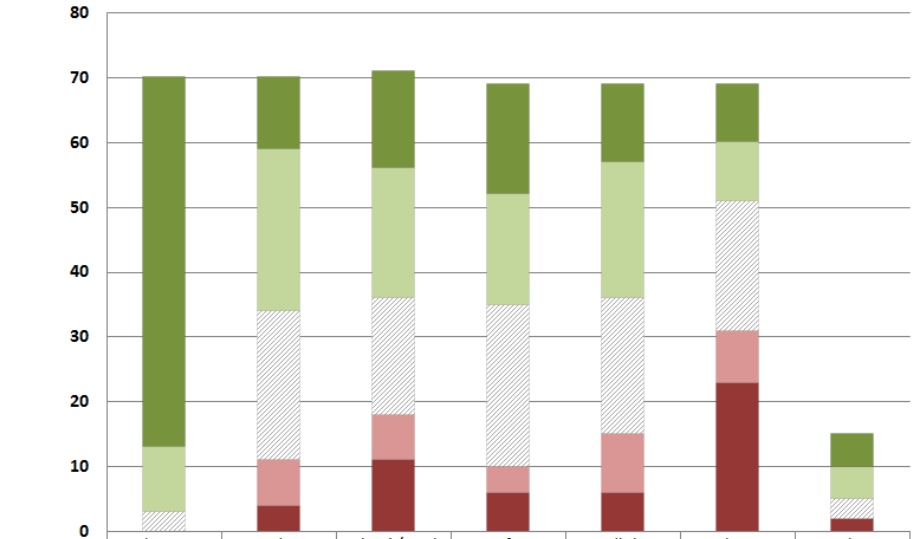


Fig. 2. Risk group preferences towards the usage time

The distribution responses about preferred usage locations among the Risk Group was depicted in Figure 3. The analysis indicated that the majority of SNS usage occurred at home, followed by outdoors such as parks being the second most prevalent location. The library was found to be the least preferred location. A minority of participants reported frequently using SNS while commuting on public transport. These findings have important implications for the design of e-health interventions, as they highlight the need to tailor strategies to specific usage contexts. Further research is needed to explore the reasons behind these usage patterns and to identify opportunities for targeted interventions.

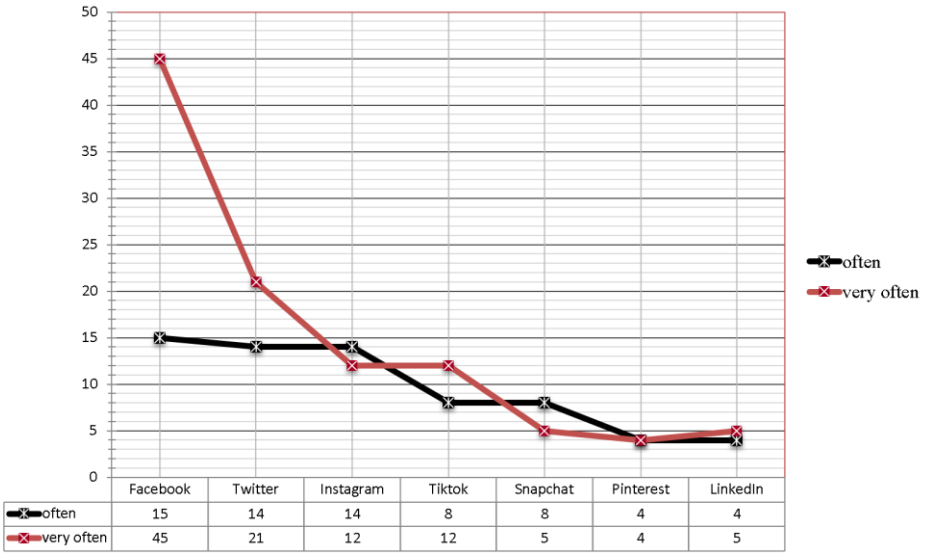


	home	Outdoor	School /Work	Cafes	Friend's home	Library	Other
very often	57	11	15	17	12	9	5
often	10	25	20	17	21	9	5
Sometimes	3	23	18	25	21	20	3
Rarely	0	7	7	4	9	8	0
Never	0	4	11	6	6	23	2

Fig. 3. Locations where the risk group interact with SNS the most

4.4. Environmental context

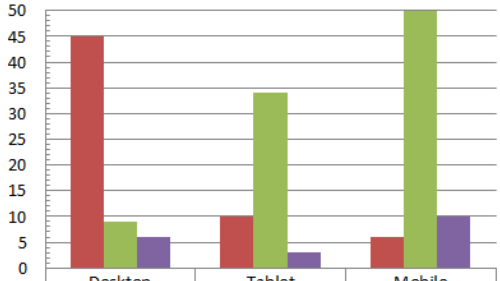
This context focused on assessing various aspects related to SNS usage, such as the platforms and devices employed. Figure 4 depicted the distribution of SNS platform usage among the participants, revealing that Facebook was the most frequently used one (60), followed by Twitter (35). In contrast, platforms such as LinkedIn (9) and Pinterest (8) exhibited lower usage rates. Notably, a small number of participants reported using other social services, such as WhatsApp and Telegram, which were categorized separately as instant messaging (IM) services. The selection of platforms included in the survey was based on their prioritization of the majority of the Honeycomb building blocks (Dwivedi et al., 2021). These findings have important implications for the development of targeted interventions that can leverage the popularity and usage rates of specific SNS platforms.



	Facebook	Twitter	Instagram	Tiktok	Snapchat	Pinterest	LinkedIn
often	15	14	14	8	8	4	4
very often	45	21	12	12	5	4	5

Fig. 4. SNS platforms used by the risk group the most

The study also analyzed the participants' preferred methods of accessing SNS. The results, depicted in Figure 5, showed that the classical web browsers for desktops and dedicated mobile applications were the most used methods of accessing SNS. Perhaps for convenience and usability reasons, the dedicated mobile applications were found to be the preferred mode of accessing SNS on mobile devices, with a total of 84 instances, surpassing the usage of classical web browsers. These findings suggest that mobile devices and dedicated applications should be prioritized when designing e-health interventions that utilize SNS.



	Desktop	Tablet	Mobile
Classical browser	45	10	6
Dedicated application	9	34	50
SNS accounts manager	6	3	10

Fig. 5. Brower type and devices used for accessing SNS by the risk group

4.5. Task context

The main objective of this context was to investigate the interconnection between SNS activities and addiction. Table 2 presented the outcomes of the chi-square test that evaluated the significance of the relationship between the frequency of activities (dependent variable) and addiction levels (independent variable). The findings revealed that the obtained data had a

probability of occurrence less than 0.005, apart from news feeds (0.114). Therefore, there was a statistically substantial correlation between the dependent and independent variables, except in the case of news feeds (Li et al., 2022).

Table 1: Chi-square test for SNS activities.

SNS activities (Features)`	Chi-V	df.	Sig.
Posting photos or videos	30.151	4	0.000
Chatting	18.591	4	0.001
Sharing “posts/photos/videos"	22.912	4	0.000
News feeds	6.848	4	0.144
Rating content "Liking picture on Facebook"	27.118	4	0.000
Creating relationships.	33.548	4	0.000
Finding/creating events	18.943	4	0.001
Location services. "Location sharing on Facebook"	37.232	4	0.000
Follow breaking news	24.652	4	0.000
Writing on walls	25.499	4	0.000
Private Messaging	19.833	4	0.001
Commenting (on statuses, pictures, wall posts)	30.698	4	0.000
Browsing through photos of others	32.309	4	0.000
Browsing others' profiles	34.856	4	0.000
Reading walls	19.813	4	0.001
Viewing photos or videos	15.606	4	0.004
Updating profile	39.484	4	0.000
Tagging photos or videos	33.261	4	0.000
Posting status updates	16.176	4	0.003
Playing social networking games.	21.007	4	0.000
Creating/joining groups.	24.451	4	0.000
Notifications “Receiving notifications for new re-tweets”	26.191	4	0.000

Subsequent analysis entailed an examination of the activities carried out by users on SNS. Figure 6 presented the frequencies of diverse activities within the Risk Group. Prevalently conducted activities encompassed those related to media viewing, including photos and videos, content rating through liking and re-posting, private messaging, commenting, a perusal of others' profiles, and news feeds. Conversely, infrequently performed activities involved the creation and discovery of events and groups.

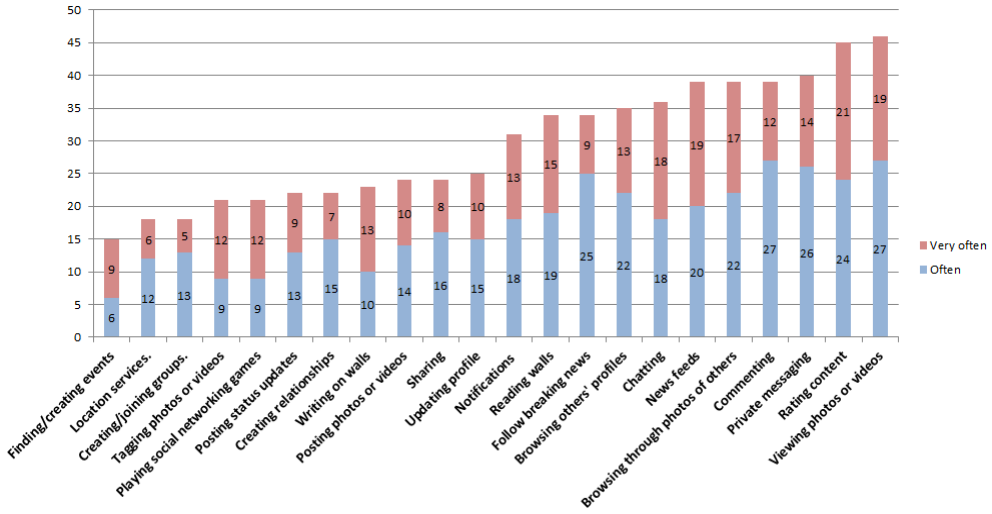


Fig. 6. SNS activities of users

The analysis involved the assessment of participants' perceptions towards various activities that may facilitate addiction, as depicted in Figure 7. These addictive activities included media viewing, content rating, private messaging, and commenting. The results indicated that viewing media, rating content, and private messaging were perceived as the most addictive. Conversely, commenting was deemed less problematic than the activities presented in Figure 6. The participants also identified notification alerts as a trigger for addictive behaviours.

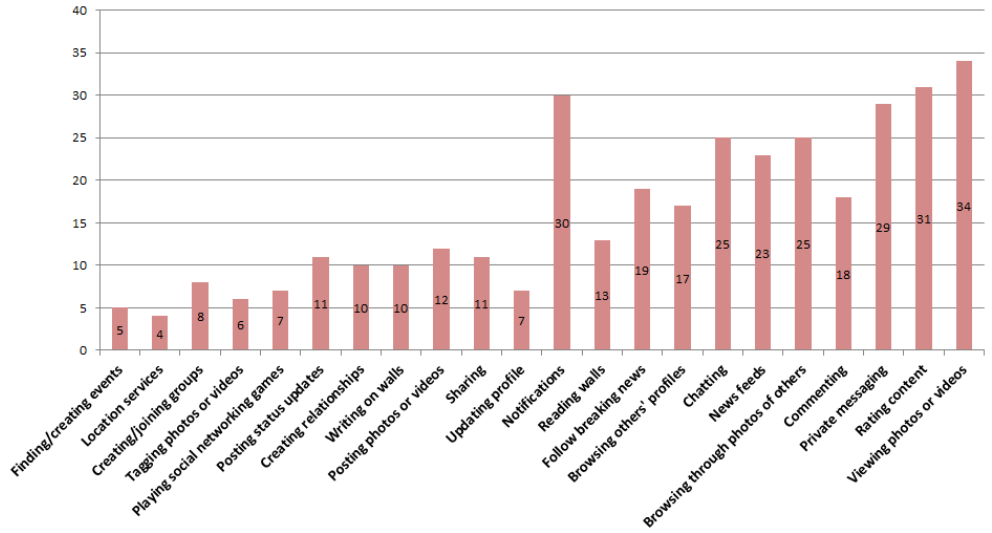


Fig. 7. Addictive SNS activities based on participants' judgement in the risk group

The study involved analyzing participants' primary motivations when using SNS. Interestingly, the motivations depicted in Figure 8 showed that communicating with others, entertainment and information seeking were positively related to excessive use. In contrast, attention-seeking, and self-promotion had less association.

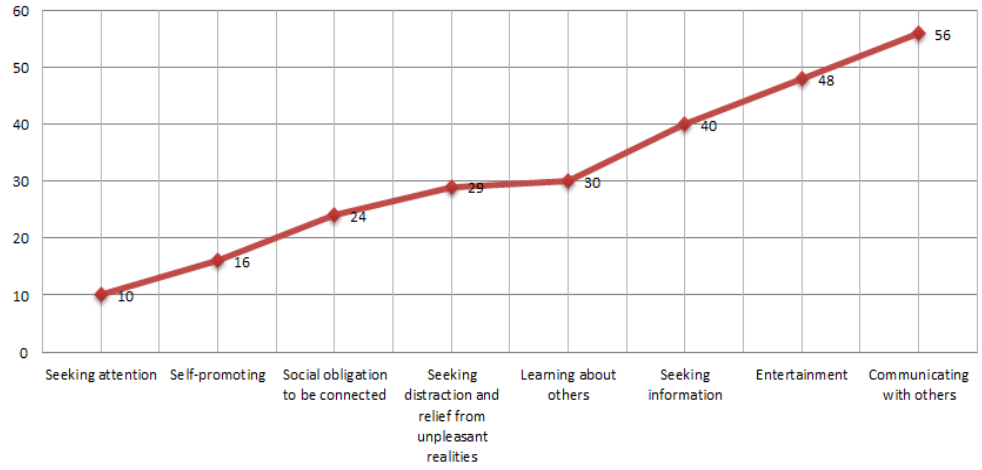


Fig. 8. Motivation behind the use of SNS features among the risk group

The current investigation encompasses the examination of optional features that are most preferred for regulating the usage of technology within the given task context. This part of the analysis involves individuals with normal usage patterns, including non-addicts and those at risk of addiction, to obtain a comprehensive understanding of their general perceptions towards such technology.

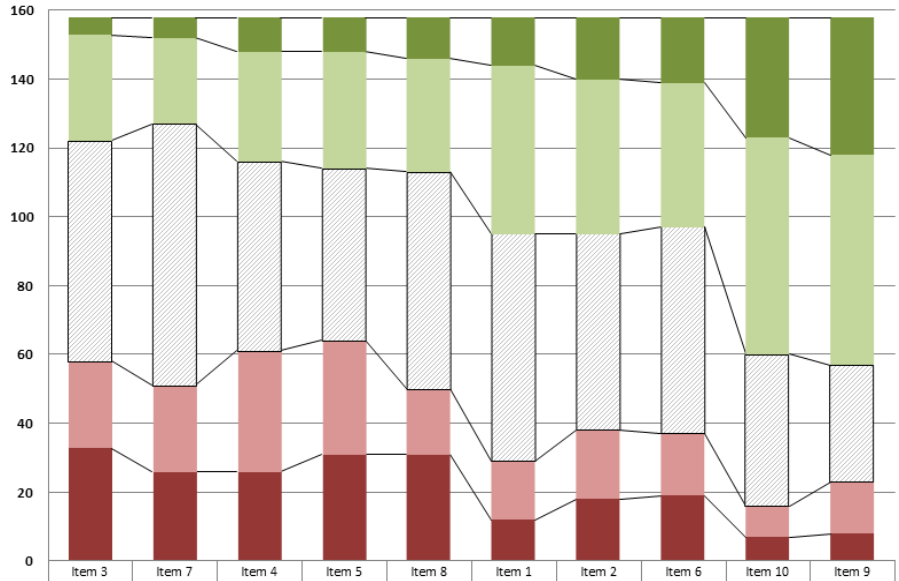
It is expected that both groups will utilize these features to mitigate addiction and manage their usage effectively. These features are classified as RULES in accordance with Kofod-Petersen and Cassens (2005), with each feature assigned to a distinct strategy based on the persuasive techniques outlined by Leemets et al. (2023). The study primarily focuses on intervention strategies that can be employed in intervention systems, and Table 3 provides a list of the optional features that E-health intervention systems should support. Filtration features pertain to options for managing a large volume of information, such as hiding updates from less prioritized friends. Do-not-disturb features encompass options to silence specific interactions, while usage-tracking features enable users to monitor their social networking activities. Raising awareness features refer to a list of characteristics that promote addiction.

Table 2: Most preferred features to be included in intervention systems for SNS addiction

Raising Awareness Strategies	
Approach 1	Providing users with a personalized set of features, tailored to their location, time, motivation, and other relevant factors, that effectively enhance the addictive potential of the user experience.
Approach 2	Deploying usage-tracking functionalities that allow users to monitor their usage patterns, establish usage targets, and stay motivated towards achieving their goals.
Restrictions Strategies	
Approach 3	Enforcing feature-specific usage limits, such as restricting users to update their status only once per day, to regulate and control the frequency of user engagement with certain features.
Approach 4	Implementing feature-specific access restrictions, such as concealing the LIKE button on Facebook, to regulate user engagement with specific features.
Approach 5	Limiting the availability of addictive features to designated time slots during the day, such as enabling the ability to re-tweet only between 18:00 and 19:00.

Behavioural Change Strategies	
Approach 6	Implementing a gradual reduction of how long users can use SNS, such as decreasing the time allowance by one hour per week, to achieve an optimal balance and regulate usage.
Approach 7	Offering personalized incentives to users who transition towards healthier usage patterns, such as increasing the weekly quota of "likes" that they can send, to promote positive reinforcement and motivate users towards maintaining healthier usage.
Approach 8	Enabling users to set goals and share their progress with their social network, as a means to solicit support and encouragement from their peers, and promote accountability towards achieving their desired outcomes.
Avoiding distractions	
Approach 9	Implementing measures to mitigate information overload, such as filtering out updates from lower-priority friends, to reduce user cognitive load and facilitate more efficient and effective engagement with the SNS platform.
Approach 10	Enabling users to selectively mute notifications from specific updates or friends, such as muting "likes" notifications, to reduce the frequency and potential distraction and promote a more focused and intentional usage.

Figure 9 depicts the participants' preferences towards the features that should be implemented into the intervention systems. The items were categorized based on four strategies discussed in Table 3 and sorted in accordance with their respective preference rates. The findings indicate that distraction mitigation strategies were the most preferred while restriction-based strategies were the least, followed by facilitating tools for behavioural change (approach 6) and raising awareness (approachs1 & 2).



	Item 3	Item 7	Item 4	Item 5	Item 8	Item 1	Item 2	Item 6	Item 10	Item 9
Strongly Favour	5	6	10	10	12	14	18	19	35	40
Somewhat favour	31	25	32	34	33	49	45	42	63	61
Neutral	64	76	55	50	63	66	57	60	44	34
Somewhat oppose	25	25	35	33	19	17	20	18	9	15
Strongly oppose	33	26	26	31	31	12	18	19	7	8

Fig. 9. Illustrative diagram for the most preferred intervention features for SNS addiction

5. DISCUSSION

Our survey study yielded insights into different aspects of SNS addiction, examined from the perspective of context-awareness. We evaluated SNS addiction levels among users within their personal context using established measures. To accomplish this, we employed a modified version of the Internet Addiction Scale (Young, 2008), as adapted by Alotaibi et al. (2022). It is noteworthy that other scales, such as Bergen's Facebook Addiction Scale (Wong et al., 2023), may have produced distinct findings and identified varying degrees of SNS addiction within the sample.

Upon exploring the spatiotemporal context, our research uncovered that most individuals addicted to SNS did not demonstrate temporal preferences for their SNS usage. We infer from this that any intervention systems designed to address SNS addiction should not rely solely on specific timeframes, but rather should be capable of monitoring SNS activities continuously. Additionally, our findings indicate that SNS addicts frequently interact with these platforms in leisure settings, including home and outdoor environments. As a result, incorporating a location-based monitoring feature into intervention systems may prove to be an effective approach.

Our investigation of the environmental context revealed that Facebook and Twitter were the most prevalent SNS platforms utilized by the study participants. Furthermore, dedicated mobile applications were more commonly utilized. These findings imply that future interventions should concentrate on these two SNS platforms and prioritize monitoring features specifically tailored to the mobile environment.

When examining the task context, we observed that the most frequently performed activities on SNS were viewing media, rating content, private messaging, and commenting. These activities were identified as the most addictive within the SNS platforms. As a result, targeting these specific activities for monitoring and intervention could prove to be effective strategies for regulating usage. Interestingly, participants' responses regarding their most frequently performed activities and their judgments of the most addictive activities exhibited similar frequency distributions.

The features to be incorporated into intervention systems were also examined. Filtration features, such as the ability to hide updates from less prioritized friends, were identified as potential aids in regulating usage. This approach would allow notifications from close friends. Nonetheless, the effectiveness of such filtration measures, including options for muting specific interactions (e.g., a 'do-not-disturb' feature), would require evaluation. Recent research has shown that 'do-not-disturb' features, as seen in the iOS platform, can help users reduce stress levels (Harkin & Kuss, 2021). Additionally, integrating tracking usage and raising awareness features within intervention systems can assist addicts in identifying features that contribute to their addiction.

Although the study has provided insights into SNS usage and addiction, additional large-scale studies involving diverse age groups are necessary to validate our findings. Analytical comparisons with other studies and surveys focusing on various psychological constructs, such as emotions, can provide a comprehensive understanding of the phenomenon and inform intervention strategies.

We acknowledge that our investigation was limited to various aspects of SNS addiction through the lens of context awareness. Hence, the social context, encompassing norms and the social structure should be considered in future research.

Regarding intervention systems, it is crucial to determine whether fully adaptive, semi-adaptive, or manual interventions are more suitable for SNS addicts. While fully adaptive systems may impose excessive restrictions, potentially leading to increased stress

levels among SNS addicts, manual intervention tools may prove ineffective if users fail to input their intervention preferences.

In summary, the survey results provide insights for future researchers interested in designing and planning interventions for SNS addiction, offering a foundation for further exploration and refinement.

6. CONCLUSION

This study has elucidated the interplay among socio-demographic characteristics, personal context, spatiotemporal, environmental, and task context in relation to levels of addiction to SNS. These findings have advanced our comprehension of SNS addiction and offer insights for the design and implementation of tailored e-health interventions.

With regard to socio-demographic characteristics, the results indicate no significant differences in addiction levels between genders or across various age groups. These findings suggest that gender and age factors may not play a significant role in SNS addiction, at least in the specific cohort examined. Nevertheless, due to the limited size of the sample, further investigations involving larger and more diverse populations are important to confirm the generalizability of these observations.

The evaluation of personal context disclosed that a substantial proportion of the participants (41%) were identified as individuals suffering from SNS addiction. This emphasizes the high prevalence of SNS addiction and accentuates the need for intervention solutions. Categorizing addicts into a Risk Group can enable interventions to be customized to meet the unique requirements of this subgroup.

The analysis of spatiotemporal context indicated that the participants did not demonstrate any marked preferences for specific times for SNS usage, with evenings being the second most favoured time. This might be informative for designing interventions that concentrate on monitoring and regulating SNS usage during particular periods. Additionally, the observation that individuals primarily utilize SNS at home and outdoors highlights the significance of considering these contexts when formulating intervention strategies.

The analysis of environmental context revealed the prominent platforms and devices utilized for accessing SNS, with Facebook being the most widely used platform, followed by Twitter. Furthermore, the high prevalence of dedicated mobile applications for SNS access emphasizes the need to consider the incorporation of digital well-being functionalities into smartphone operating systems such as IOS and Android. Such features can assist in promoting healthy SNS usage habits and reducing addiction levels.

Analyzing task context revealed a correlation between SNS features and addiction. Viewing media, rating content, private messaging, and commenting were associated with addictive usage. On the other hand, distraction mitigation strategies have been identified as a potentially effective approach to regulating usage.

In conclusion, the study provides insights into the contextual factors that determine addiction to social networking sites (SNS). The results emphasize the significance of including the context model proposed by Kofod-Petersen and Cassens (2005) as a guiding framework to analyze e-health intervention strategies.

7. LIMITATION AND FUTURE RESEARCH

The present study is subject to certain limitations that may restrict the generalizability of its findings. Specifically, the sample size was relatively small, thereby potentially compromising the external validity of the results. Furthermore, reliance on self-reported data may introduce

response biases and inaccuracies, which could limit the reliability and validity of the outcomes. To address these limitations, future research endeavours could incorporate objective measures, such as actual usage tracking or physiological indicators, to support self-report data and enable a more comprehensive evaluation of SNS addiction. Future investigations should consider additional contextual variables that potentially influence the behaviour, such as social norms, peer influence, and cultural factors to establish a foundation for a comprehensive understanding of the phenomenon.

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