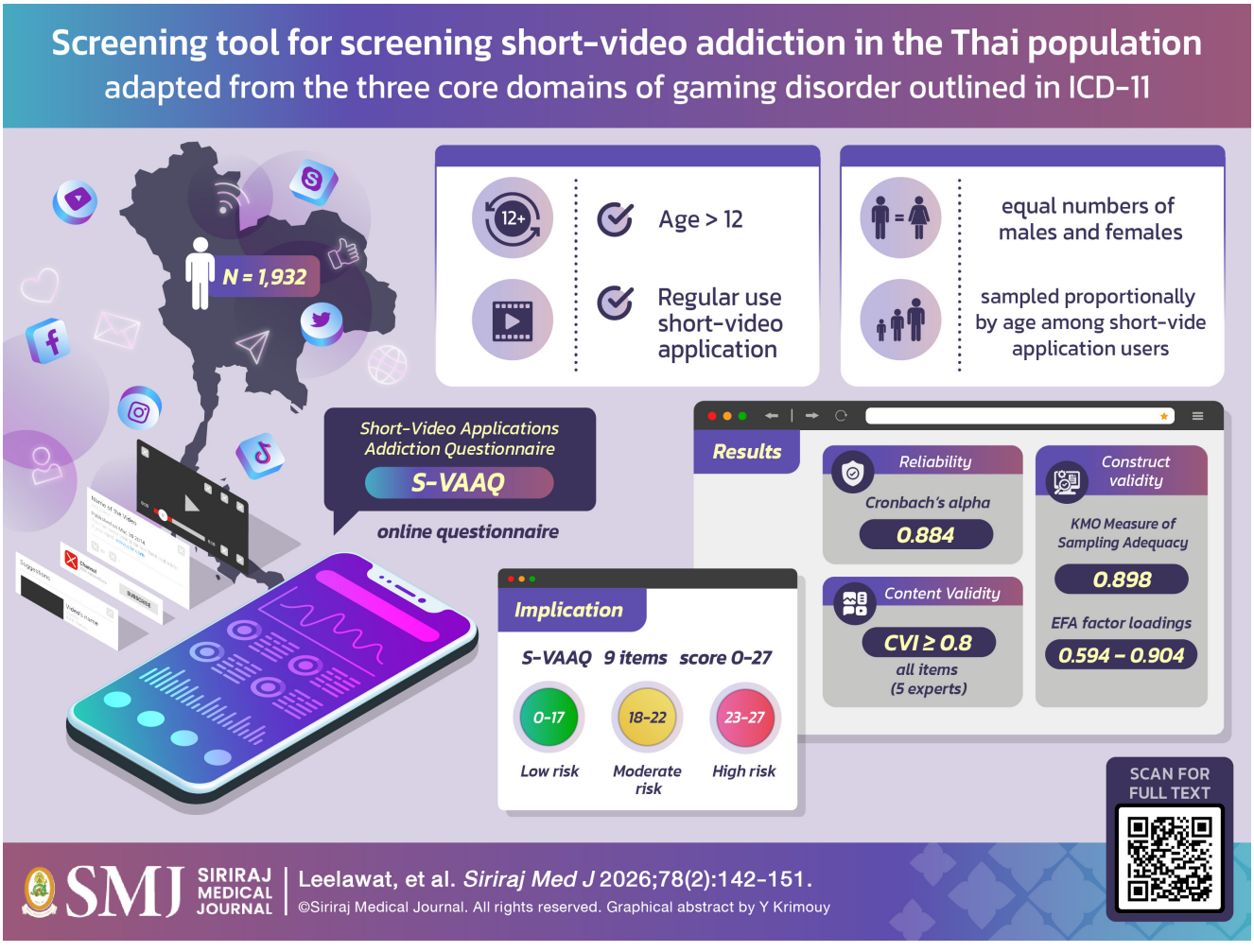
Development and Psychometric Properties of Short-Video Applications Addiction Questionnaire (S-VAAQ)

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ABSTRACT

Objective: This cross-sectional study aimed to develop and validate the Short-Video Applications Addiction Questionnaire (S-VAAQ) and evaluate its reliability and validity among Thai individuals aged 13 years and older.

Materials and Methods: The S-VAAQ is a 9-item screening tool adapted from the three core domains of gaming disorder outlined in ICD-11: impaired control over usage, increased priority given to gaming, and continued use despite negative consequences. Items were modified to better reflect short-form video consumption behaviors. Data were collected through an online questionnaire distributed via short-form video platforms and Line, targeting Thai participants aged 13 and above who regularly watched short-form videos and were proficient in Thai. Statistical analyses included content validity index (CVI) assessments by five experts, Cronbach's alpha for internal consistency, and exploratory factor analysis (EFA).

Results: A total of 1,932 participants aged 13 years and older were included. The median daily duration of short-form video viewing was three hours. All items demonstrated CVI scores exceeding 0.78. The scale exhibited good internal consistency, with a Cronbach's alpha of 0.884. KMO Measure of Sampling Adequacy of 0.898 and EFA revealed factor loadings ranging from 0.594 to 0.904 supporting the scale's construct validity.

Conclusions: In conclusion, the S-VAAQ demonstrated good reliability and validity. This instrument can serve as a useful tool for screening short-form video addiction in the Thai population and support further research and intervention strategies.

Keywords: Adolescent; psychometrics; surveys and questionnaires; internet addiction disorder; social networking; short-video addiction (Siriraj Med J 2026;78(2):142-151)

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INTRODUCTION

Short videos have rapidly gained popularity on social media platforms, becoming comparable to other forms of social media content. People consume short videos mainly for entertainment and to access information on topics of interest through audiovisual clips lasting only seconds to minutes. The popularity of short videos has significantly increased over the past two to three years. During the COVID-19 pandemic, in 2022, TikTok emerged as the most downloaded application on the App Store, reaching approximately 700 million downloads.[1] This surpassed YouTube and WhatsApp, which ranked second and third with approximately 400 million downloads each. Moreover, the average time spent on TikTok continues to rise, with users spending approximately 19.6 hours per month on the app[1]— a figure comparable to Facebook's 23.7 hours per month and second only to YouTube. In Thailand, TikTok ranks eighth globally in user numbers, with 38 million users.[2]

As short-video consumption grows, various studies show that excessive use can lead to addiction and negatively impact mental health. For example, excessive TikTok use has been linked to increased depression, anxiety, stress, and memory loss.[3] Addiction to short videos has also been associated with poorer academic performance and reduced quality of life.[4] Despite their popularity as a source of entertainment and information, excessive or compulsive use of short-video platforms can have detrimental effects on individuals, families, and society. Therefore, it is essential to develop preventive measures from the outset.

Existing social media addiction screening tools, such as the Social Media Addiction Scale (S-MASS)[5] and the Bergen Social Media Addiction Scale[6], were developed prior to the rise of short-video platforms and thus do not include items that specifically address short-video addiction. Due to the lack of standardized diagnostic criteria for short video addiction, previous studies[7-9] often adapted existing addiction scales designed for social media, smartphones, or gaming addiction to assess this issue.

In the past two to three years, several additional assessment tools for short-video addiction have been developed, such as the TikTok Addiction Scale (TTAS)[10] and the Problematic TikTok Use Scale (PTTUS).[11] However, both instruments were created to evaluate addiction solely related to TikTok. Moreover, PTTUS includes items from both user perspectives — content creators and viewers — although current surveys[12] indicate that most users are viewers only. Additionally, the sample

sizes in the validation studies for TTAS and PTTUS were relatively small (around 300–400 participants) and limited age ranges, with data collection beginning at ages 18 and 16, respectively. Yet, short-video use is now prevalent among younger adolescents, even below these age thresholds. The Short Video Addiction Scale (SVAS)[13] was developed to assess addiction to various short-video platforms, but it was designed specifically designed for adolescents and includes only six items, evaluating functional impact in a single domain — sleep disturbance.

The present study aims to develop an assessment tool to measure overall short-video addiction across multiple platforms, based on the diagnostic criteria for gaming disorder outlined in the eleventh revision of the International Classification of Diseases (ICD-11).[14] This tool is intended to serve as a foundation for future research and to promote societal awareness, understanding, and preventive measures against excessive and problematic short-video consumption.

MATERIALS AND METHODS

Population and sample

This study employed a cross-sectional survey design using a structured questionnaire. Data collection was conducted between May and August 2025. The inclusion criteria were individuals aged 13 years and older who were able to read Thai and regularly consumed short-form video applications. The exclusion criteria were participants who provided incomplete questionnaire responses. Participants were recruited through online data collection via Google Forms, promoted across multiple social media channels. Participation was voluntary and individuals of all age groups could voluntarily click and complete the questionnaire. For participants aged 13–17, data collection was coordinated through four schools, with three located in Bangkok and one in the Southern region.

The researchers aimed to collect data from 1,932 individuals. A stratified random sampling method, based on age groups, was employed initially, followed by convenience sampling until the calculated target population size for each age stratum was reached. The sample was proportionally distributed according to the TikTok usage data from 2022[16] as follows: 13–17 years: 425 (22%); 18–24 years: 576 (29.8%); 25–34 years: 446 (23.1%); 35–44 years: 242 (12.5%); 45–54 years: 141 (7.3%); and 55 and above: 102 (5.3%). The final sample was balanced for sex, including an equal number of male and female participants.

Sample size calculation

The sample size was calculated using a one-group proportion formula at a 95% confidence level:

$$n = \frac{|p|(1-p)Z^2}{(0.01^2)} = \frac{0.952(1-0.952)(1.96^2)}{(0.01^2)} = 1,756$$

Where p = 95.2%[15] (the estimated population proportion), (Z) = 1.96 (for 95% confidence), and d = 1% (margin of error). To account for potential responses (10%), the total sample size was increased accordingly, resulting in a total sample size of approximately 1,932 participants (1,756 + 176).

Instruments

The questionnaire consisted of three parts:

1) Demographic information: This includes education level, occupation, marital status, chronic physical illnesses, psychiatric conditions, and family structure.

2) Social media and short-form video application usage behavior: This includes purpose of smartphone and social media use, most frequently used short-form video application, usage patterns, and perceived addiction to short-form videos.

3) Short-Video Application Addiction Questionnaire (S-VAAQ): The S-VAAQ was adapted from the Gaming Disorder Scale (GAME-S)[17]: a self-report version with nine items. It assesses three distinct categories of gaming disorder symptoms based on ICD-11 criteria, including difficulty controlling engagement (three items), prioritization of gaming over other activities (three items), and continued gaming despite negative consequences (three items). Items were reworded to reflect behaviors associated with short-video consumption. Responses were rated on a 4-point Likert scale: 0 (not at all) to 3 (definitely).

The questionnaire developed by the research team underwent expert content validation by five experts. After revising the questions until a good content validity score was achieved, the questionnaire was taken to a focus group to assess clarity and comprehension of the questions. This focus group consisted of five individuals aged 13-24 years and five aged 25 years and older. Adjustments were made based on their feedback, resulting in the final questionnaire used for further analysis.

Data analysis

Descriptive statistics, including median, standard deviation, percentiles, were used to summarize demographic characteristics and social media and short-form video application usage behaviors. Internal consistency of the S-VAAQ was evaluated using Cronbach's alpha. Content

validity was evaluated by five experts using the Content Validity Index (CVI). Construct validity was examined through the KMO Measure of Sampling Adequacy and Exploratory Factor Analysis (EFA) to identify the factor analysis of the S-VAAQ. Additionally, Latent Class Analysis (LCA) was employed to classify individuals based on response patterns.

RESULTS

From the total 4,476 online responses, 99.6% reported using short video applications. Among them, 3,416 people (76.3%) were regular users. The researchers selected the first 1,932 participants for data analysis based on age and gender distribution.

Demographic characteristics of participants

Most participants held a Bachelor's degree or higher. Demographics showed that 61% of participants were single. The majority reported overall good health, with 78% indicating no chronic physical illnesses and 85% reporting no psychiatric disease. Nearly half (49%) lived in nuclear family structures as shown in Table 1. The median daily time spent watching short-form videos was three hours per day.

Smartphones were primarily used for social media (69%), with only 5% reporting making phone calls as the main purpose. The most common objective for using social media was chatting/communication (41%), followed by watching/sharing short-form videos (36%), a rate four times higher than the next highest objective. Nearly half of the population favored TikTok as their primary platform. The majority (76%) reported being viewers rather than content creators. Significantly, over half of the population believed they were either potentially addicted or already addicted to short-video applications.

Content validity of the S-VAAQ

Content validity was established by five expert reviewers using the Content Validity Index (CVI). The evaluation covered relevance, clarity, and simplicity. All items achieved CVI scores of 0.79 or higher in all three aspects, confirming the instrument's content validity (Table 3).

Construct validity of the S-VAAQ

The scale exhibited internal consistency, with a Cronbach's alpha of 0.884. Factor analysis, with a KMO Measure of Sampling Adequacy of 0.898, and EFA revealed factor loadings ranging from 0.594 to 0.904. Items 1–3, 4–6, and 7–9 did not form distinct factors. Thus, all 9 items were retained as a single scale, as the removal of any item would have decreased the overall Cronbach's alpha (0.884), indicating the contribution of all items to the scale's reliability (Table 4).

Latent Class Analysis (LCA)

Based on the model fit indices, the three-class model was selected as the optimal solution in the Latent Class Analysis (LCA) (AIC = 44,029.623, BIC = 44,513.892, entropy = 0.916; Table 5). This model yielded score cut-off points that distinctly categorized participants into three latent classes: the 0-17 group, which included 964 individuals (49.9%); the 8-22 group, with 562 individuals (29.1%); and the 23-27 group, comprising 406 individuals (21.0%) (as illustrated in Fig 1).

DISCUSSION

This study developed and validated the Short-Video Application Addiction Screening Questionnaire (S-VAAQ), a screening tool designed to identify short-video application addiction among users who primarily consume short-form video content. Data were collected from a general population sample of individuals aged 13 years and older in Thailand (N = 1,932) to evaluate the psychometric properties of the S-VAAQ, which demonstrated good reliability and validity as a screening questionnaire.

The S-VAAQ is a 9-item self-report scale (total score range: 0–36) designed for rapid completion. Scores classify users into three risk groups: Low Risk (score <18), Moderate Risk (score 18-22), and High Risk (score >22). This classification framework facilitates early identification and intervention, ensuring that individuals at risk receive appropriate monitoring and clinical care.

The S-VAAQ was initially developed by adapting items from the GAME-S questionnaire, which is based on the ICD-11 criteria for gaming disorder encompassing three domains: Difficulty controlling engagement, prioritization over other activities, and continued use despite negative consequences. However, exploratory factor analysis (EFA) indicated that two items did not load onto their intended domains: Specifically, Item 3: ("I often get irritated when people tell me to stop watching short video clips") intended for the difficulty controlling engagement domain, was categorized under the continued despite negative consequences domain. This may reflect that irritation in response to warnings manifests as an interpersonal negative outcome. Similarly, Item 4: ("I often neglect or spend less time on my daily routines because of watching short video clips") originally assigned to prioritization over other activities, loaded under the difficulty controlling engagement domain.

TABLE 1. Demographic data.

Demographic data (n = 1932)	n	%
Level of Education		
Primary school	32	2
Lower secondary school	248	13
Upper secondary school / Vocational Certificate	395	20
Associate Degree / Higher Vocational Certificate	72	4
Bachelor's degree or higher	1185	61
Occupation		
Student	949	49
Government officer / State enterprise employee	383	20
Private company employee / Hired worker	335	17
Business owner / Entrepreneur	141	7
Freelancer / Self-employed	73	4
Unemployed / Retired	51	3
Marital status		
Single	1509	78
Married and living together	364	19
Married but living separately	31	2
Widowed / Divorced	28	1
Physical chronic illnesses		
No	1643	85
Yes	289	15
Psychiatric disease		
No	1834	95
Yes	98	5
Attention Deficit Hyperactivity Disorder (ADHD)	53	3
Depression	47	2
Anxiety / Panic Disorder	42	2
Bipolar Disorder	15	1
Learning / Intellectual Disabilities	6	0
Autism Spectrum Disorder	4	0
Substance Use Disorder	3	0
Eating disorder	1	0
Family structure in the past 12 months		
Living alone	219	11
Living with partner / friends / roommates	290	15
Nuclear family (parents and children living together)	946	49
Extended family (grandparents, parents, and children living together)	388	20
Skipped-generation family (grandparents and grandchildren living together)	53	3
Blended family (parents with stepchildren living together)	36	2

TABLE 2. Behavioral patterns and usage of smartphones, social media, and short-form video applications.

Behavioral and Usage of smartphone, social media and short-form video app data (n = 1932)	n	%
Purpose of smartphone use		
For using social media applications	1332	69
For other entertainment	278	14
For studying / working	189	10
For phone calls	100	5
For taking photos / recording videos	23	1
Purpose of social media use		
To chat / communicate (e.g., via Line)	796	41
To watch/share short-form videos (e.g., TikTok, YouTube Shorts, IG Stories)	695	36
To watch/share long-form videos (e.g., YouTube)	169	9
To view/share images (e.g., Instagram)	137	7
To read/share articles (e.g., Facebook, X)	124	6
Most frequently used short-form video app		
TikTok	953	49
Instagram reels/ story	379	20
Facebook reels	313	16
YouTube short	273	14
Others	5	0
Short-form videos viewing behavior		
Only watching	1472	76
Both watching and creating	454	23
Only creating	6	0
Perceived addiction to short-form videos		
Not addicted	527	27
Possibly addicted	1009	52
Addicted	396	20

TABLE 3. Content validity index (CVI) Scores of the S-VAAQ.

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9
Relevance	1	1	1	1	1	1	1	1	1
Clarity	1	1	1	1	1	1	1	1	1
Simplicity	0.8	1	1	0.8	1	1	0.8	0.8	0.8

TABLE 4. Item-Level Factor Loadings and Reliability Analysis of the S-VAAQ.

Item	Factor 1	Factor 2	Factor 3	Corrected Item-Total Correlation	Cronbach's alpha if item delete	Mean	SD
Item 1		0.769	0.220	0.577	0.877	2.22	0.932
Item 2	0.205	0.834	0.209	0.631	0.873	2.45	1.033
Item 3	0.652	0.367		0.600	0.875	1.61	0.814
Item 4	0.469	0.594	0.284	0.713	0.865	2.02	0.961
Item 5		0.234	0.904	0.529	0.882	2.56	1.010
Item 6	0.414	0.386	0.638	0.716	0.865	2.11	0.950
Item 7	0.807	0.218	0.223	0.689	0.868	1.64	0.843
Item 8	0.736	0.286	0.230	0.683	0.868	1.81	0.911
Item 9	0.881			0.593	0.875	1.45	0.760

TABLE 5. Latent Class Analysis model for the S-VAAQ.

Model	AIC	BIC	Entropy
2-class	47026.086	47348.932	0.911
3-class	44029.623	44513.892	0.916
4-class	43022.733	43668.425	0.891

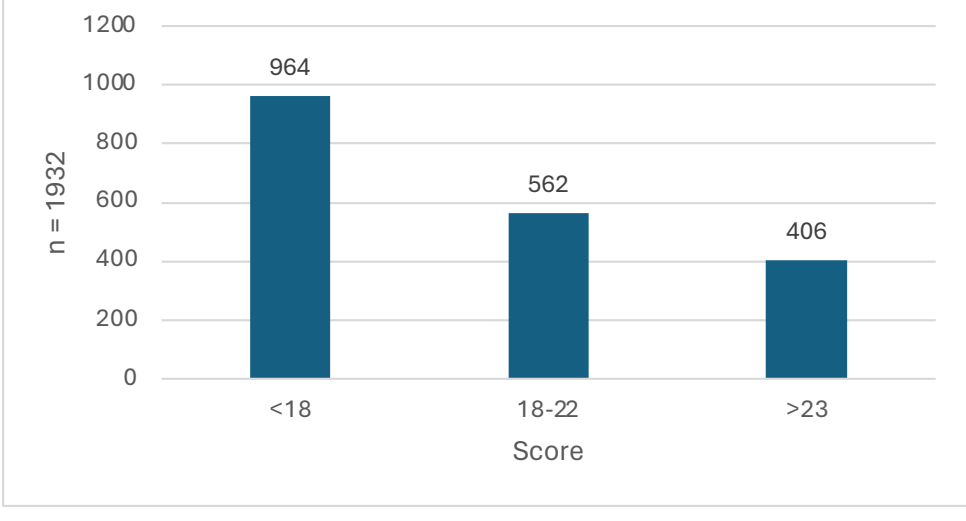


Fig 1. Cut-off points from the three-class Latent Class Analysis model of the S-VAAQ.

Similar ambiguity in interpretation is suggested as the reason for this unexpected loading.

Consequently, the researchers opted not to divide the S-VAAQ into separate domains but use a single total score instead. The internal consistency of the S-VAAQ was high, with a Cronbach's alpha of 0.884. Furthermore, the item-total correlation analyses indicated that the Cronbach's alpha if the item was deleted ranged from 0.865 to 0.882, which was lower than the overall Cronbach's alpha of 0.884. Therefore, no items were removed from the questionnaire.

Psychometrically, the S-VAAQ exhibits comparable reliability to existing instruments while offering distinct advantages. The S-VAAQ's Cronbach's alpha of 0.884 is similar to that of the PTTUS (0.83-0.90), however, the S-VAAQ is significantly more concise with only nine items compared to PTTUS's 16. Importantly, the S-VAAQ items specifically target viewing-related behaviors, aligning with the present study population where 76% of participants identified as being viewers only, whereas the PTTUS includes both content creators and viewers. When compared to the TTAS, the S-VAAQ's Cronbach's alpha (0.884) is slightly lower than the TTAS (0.911). Nevertheless, the fewer items in S-VAAQ (9 vs. 15), derived from only three core domains of game addiction, make it more practical for rapid self-screening. Furthermore, the S-VAAQ sample demonstrated superior representation of the general population due to equal male/female proportions and proportional sampling across short-video application usage age groups whereas the TTAS sample was disproportionately female and limited to ages of 16-54. Finally, while the S-VAAQ shares the same Cronbach's alpha (0.884) with SVAS, the S-VAAQ offers broader generalizability as SVAS was developed exclusively for an adolescent population.

This study has several notable strengths, including being the first in Thailand to develop a screening tool for short-video application addiction. The use of a large sample size, proportionally stratified across all user groups (starting from age 13, the minimum age for application use) and equal male/female ratio enhances the generalizability of findings. The S-VAAQ's brevity (9 items), self-report format, and straightforward language makes it well-suited for rapid self-screening, which aligns with the preferences of short-video users. The scale uses simple and understandable language, refined through focus group discussions involving participants aged 13 to over 55, including those with less than a high school education.

Limitations include a reliance on self-reported online data, which may introduce response bias. Also, the EFA results did not align with the original three-domain structure based on the ICD-11 model, limiting the tool's capacity to identify domain-specific impairments. Moreover, the sample was predominantly composed of individuals with a high school or higher education level.

This S-VAAQ questionnaire can serve as an effective screening tool for short-form video application addiction, allowing for early detection based on specific risk levels derived from the Latent Class Analysis (LCA) model.

1. Low Risk Group: Individuals with S-VAAQ scores between 0 and 17 are categorized into the Low Risk Group. This range corresponds to the lowest risk LCA class, suggesting that these participants are unlikely to be addicted to short-form video applications and generally do not require immediate intervention.

2. Moderate Risk Group: Scores ranging from 18 to 22 define the Moderate Risk Group. This level represents an elevated but subclinical level of short-form video application use disorder. Individuals in this group are strongly advised to increase self-awareness regarding their usage habits, and their patterns may warrant clinical attention or simple psychoeducational interventions to prevent progression to addiction.

3. High Risk Group: Finally, scores between 23 and 27 categorize participants into the High Risk Group. This range corresponds directly to the highest risk LCA class, indicating a high probability of meeting addiction criteria. Individuals identified in this group may require further psychiatric evaluation and intervention to address the potential disorder.

Future research should focus on improving the specificity of the screening tool, perhaps by refining the scoring thresholds or by integrating objective behavioral indicators, such as application usage duration and an assessment of psychosocial impact. Given the absence of direct diagnostic criteria for social media or short-video addiction, future work should also focus on developing standardized criteria that aligns more precisely with those standards.

CONCLUSION

The S-VAAQ is the first screening tool for short-video application addiction developed in Thailand and the first to comprehensively include users across all age groups, from the minimum allowable age through to adulthood, which successfully demonstrated good reliability and validity. This instrument is expected to be a valuable resource for screening short-form video addiction within the Thai population, thereby facilitating further research and the development of effective intervention strategies.

Data Availability Statement

The data underlying this study are not publicly available due to ethical and confidentiality constraints. However, de-identified data can be provided upon request to the corresponding author, pending approval from the institutional ethics review board. Relevant secondary data sources are referenced in the bibliography.

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DECLARATION

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No funding was received for this study.

Conflict of Interest

The authors have no conflicts of interest to disclose.

Registration Number of Clinical Trial

Not applicable.

Author Contributions

Conceptualization and methodology, V.L, C.P., and W.A.; Investigation, V.L.; Formal analysis, V.L, W.A., and C.P; Visualization and writing – original draft, V.L ; Writing –review and editing, W.A., and C.P; Funding acquisition, W.A., and C.P; Supervision, W.A., and C.P; All authors have read and agreed to the final version of the manuscript.

Use of Artificial Intelligence

The authors used Gemini 2.5 Pro to assist with grammar correction and sentence refinement. All AI-assisted content was thoroughly validated and approved by the authors to ensure accuracy and compliance with academic and ethical standards.

Ethical Approval

This study was approved by the Institutional Review Board (IRB) of the Faculty of Medicine Siriraj Hospital (COA no.704/2024).

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