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An Empirical Study of University Students' Self-Protection Against Online Football Gambling in Urban Thailand

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Abstract

Thailand, the numbers of young gamblers accessing online gambling, particularly adolescents, are rising every year, aligning with their characteristics as digital natives. Although various sectors in society have increased their efforts to campaign against online gambling, previous research remains limited in terms of specific focus on online football gambling in youth and adolescence. This study aims to investigate self-protection against online football gambling among Thai university students through a cross-sectional survey using a quantitative approach, in which data was collected through a questionnaire from 392 Thai university students and analyzed using a multinomial logit model. The research findings reveal that football gambling protection among Thai university students can be categorized into three patterns: No Protective Behavior (NPB), Situational Protective Behavior (SPB), and Consistent Protective Behavior (CPB). Furthermore, sociodemographic factors (including academic field of study, age, and monthly allowance) and football-watching habits (such as the football league and football streaming) are associated with football gambling protection among Thai university students. This reflects the different social experiences among Thai university students. The findings of this study are important because the government or other sectors in society can utilize these results to develop guidelines for preventing access to online football gambling among children and youth. The association between football gambling protection, sociodemographic factors, and football-watching habits reflects how football-viewing behavior is linked to the ability to protect oneself from gambling. In terms of policy implementation, interventions may begin with the at-risk group—those with No Protective Behavior (NPB)—by promoting online gambling literacy during football seasons when the sport gains high popularity.

Keywords: Online Football Betting, Gaming Addiction, University Students, Adolescence

Introduction

The popularity of football is growing worldwide, especially among youth and adolescent fans. Five billion people worldwide watched the World Cup in 2024, and over 93.6 million of them engaged on social media, indicating the popularity of football throughout the world (Baker, 2023). The youth and adolescent fan group is the main target audience, and they use smartphones or tablets to watch football leagues, which are connected under the network society (FIFA, 2021).

The network society has accelerated the growth of the global social structure to become a global network society with digitalization, which is an important reflection of the convergence between technological, cultural, and social institution changes (Castells, 2022). The entry into the network society has rapidly resulted in a negative impact on society caused by technology. For illustration, being confronted with an information overload and increasing unsafe media, such as those with online gambling, affect digital well-being, especially among university students living in urban areas, who are often affected by digital technology faster than those living in other areas (Rickwood, 2014; Thianthai & Tamdee, 2024). Moreover, digital cultures can influence the well-being of youth in daily life, highlighting the interplay between technology, society, and well-being (Fu & Cook, 2020; Hendry, 2024).

The growth in online gambling is considered a negative effect of the digitization of society, which is linked to growth of the media industry, especially growth of consumer media in the sports industry. The growth of the sports industry is consistent with that of the gambling industry, especially online football betting, as its participants are consumers of fan media or sports fans. Online football betting is an economic exchange between gambling companies, football clubs, and influencers (Lopez-Gonzalez & Tulloch, 2015; May, 2024).

The main target audience for online football betting mostly comprises football fans, especially youth football fans. Watchers of football are easily motivated to bet through advertising and marketing that is latent with the popularity of the league and football clubs that youth appreciate, which results in such watchers making the decision to participate in online football betting. Online football gambling is also related to the accessibility and flexibility of digital devices and online behavior, with online gambling having a significant impact on the quality of life of youth (Akanle & Fageyinbo, 2016; Bhatiasevi et al., 2023; Lopez-Gonzalez et al., 2017; Monaghan et al., 2008; Owonikoko, 2020).

However, scholars of online gambling or online gambling-related behaviors often focus on the socio-cultural, belief, and value dimensions that affect gambling decisions. In addition, socio-cultural differences also lead to different interpretations of meanings and perceptions of online gambling, including considerations that cover multiple layers of social intersectionality, such as gender, age, race, and ethnicity, which result in different

experiences with gambling (Kim, 2019; Riley et al., 2017; Tanasornnarong et al., 2004). In addition, some scholars have found other factors related to gambling behaviors, such as level of risk tolerance, the near-miss effect, the gambler's fallacy, financial literacy, and gambling intensity (Amonhaemanon, 2023; Ariyabuddhiphongs & Phengphol, 2008). Gambling is also associated with socioeconomic status (SES) and self-control (Tan & Antolihao, 2024).

Based on a national survey in Thailand conducted by the Center for Gambling Studies, Faculty of Economics, Chulalongkorn University, a large proportion of the Thai population in the age group of 15–25 years old has participated in online gambling at night. The most common way to be exposed to gambling solicitation is through online channels. In the survey, it was found that among young people who were similar in age to university students (19–25 years old), there were 2.53 million people gambling online. When looking specifically at online football betting, the number of players was estimated at 449,673, with an annual turnover of 5,194 million baht. In terms of monthly play, the average amount of money bet was 965 baht/month, the lowest monthly betting amount was 50 baht, and the highest was 10,000 baht (Center for Gambling Studies, 2023).

Research in Thailand has partly examined online gambling behavior. For example, Wichaino and Panyachit (2023) reflected that online gambling is a significant issue faced by Thai digital citizens. It is essential to enhance online gambling literacy while simultaneously creating a social and cultural context that promotes self-protection against online gambling. Moreover, it is important to consider the various forms of online gambling, as each has its patterns and characteristics of play, which are also connected to specific target groups. In addition, the study of Thianthai and Tamdee (2024) revealed that online gambling poses an obstacle to achieving satisfactory digital well-being while also affecting physical, mental, social, and intellectual health. To overcome these obstacles, it is essential to strengthen digital literacy and increase awareness in other related skills.

While previous studies have explored various aspects of online football gambling, there is currently limited research focused specifically on protecting university students from online football gambling. This study aims to fill that gap by examining the behavior and self-protection strategies of university students, with the goal of highlighting patterns of online football betting among Thai youth and adolescents. The research findings will provide valuable insights for strengthening comprehensive online gambling prevention and understanding emerging gambling trends, ultimately contributing to the development of digital resilience and sustainable digital well-being.

Objectives

1. To examine how demographic characteristics, social factors, and football-viewing behaviors are associated with self-protective behaviors against online football betting among Thai university students.

2. To analyze the factors influencing self-protective behavior against football betting.

Literature Review

1. Online Football Betting in Thailand

In Thailand, online gambling is illegal due to severe social control legislation, such as the Gambling Act B.E. 2478 (1935) and the Computer-Related Crime Act B.E. 2550 (2007) as amended by the Computer-Related Crime Act (No. 2) B.E. 2560 (2017). This reflects the social processes related to the functioning of the legal structure (Schiff, 1976).

However, the Counter Crime Planning Division, Office of Police Strategy, Royal Thai Police, reported 74,089 gambling-related crimes involving 94,133 offenders from October 1, 2022, to September 30, 2023. Of these, 10,797 cases were related to football betting, involving 10,741 offenders. This was higher compared to the same period in the previous year, when there were 7,387 football betting cases with 7,492 offenders (Counter Crime Planning Division, 2022, 2023).

The increase in football betting aligns with the increase in online gambling websites. From October 1, 2023, to March 5, 2024, the Thai government, through the Ministry of Digital Economy and Society, blocked 25,571 gambling websites, a significant increase from the previous year (Ministry of Digital Economy and Society, 2024). The ministry has raised the alarm about how easily these websites can be accessed, particularly during major international football tournaments like UEFA Euro 2024, when 600 URLs were blocked (Thairath, 2024), with youth and adolescents identified as the most at-risk groups.

2. Socio-cultural and Economic Factors Affecting Online Football Betting

Many scholars have sought to examine online gambling within the context of the social lifestyle of online gamblers. Online gambling experiences, social meaning, and gambling practices differ by gender, with males predominantly engaging in gambling more than females, and gender also influences the type, playing style, and time of gambling. Gambling negatively affects other aspects of social life, resulting in social violence, and mental illness (Cavion et al., 2008; Håkansson & Widinghoff, 2020; McCormack et al., 2012; Venne et al., 2019).

Another group of scholars highlight the fact that online gambling is closely related to age, particularly among youth and adolescents who gamble as a form of socialization and as a way to establish social identity and peer acceptance. This phenomenon is also linked to their close relationship with digital technology

(Delfabbro et al., 2016; Derevensky & Gupta, 2007; DiCicco-Bloom & Romer, 2012; Floros et al., 2012; Thianthai & Tamdee, 2024).

When specifically considering online football betting, gambling decisions vary according to the socio-legal context of each country. In countries where gambling is legally permitted, youth and adolescents are more likely to decide to gamble when they reach the legal age (Delfabbro & Thrupp, 2003).

3. Profile of the Impact of Digital Life on Society

In Southeast Asia, regarding the impact of digital life on society, or digital lifestyle, considered through the lens of scholars in each country, the group often used for digital life studies consists of digital natives who are university students, which is a group deeply connected to and heavily impacted by digital technology (Hanckel, 2023; Kwak et al., 2021; Nasirudeen et al., 2017; Thang et al., 2014).

The consideration of digital transformation in each country can be determined from data obtained from digital natives, the Global Digitalization Index (GDI), and the World Digital Competitiveness Ranking (WDCR). Thailand is categorized as a country in the 'adopters' cluster, which consists of countries where the development of digital infrastructure and the use of digital technology for social changes are accelerating. Meanwhile, Singapore falls into the frontrunners group, which consists of countries leading in digital transformation. The impacts of these digital changes affect the digital lifestyles of the digital natives or digital users in these countries in various ways.

We consider university students as digital natives who are affected by digital transformation in society. Some scholars have reflected on the idea that the impact of digital technology on university students in urban areas is different from that on university students in other areas. This study specifically focuses on university students in Bangkok, a place which is regarded as a global city based on the flow of transnational finance and worldwide information networks through it, resulting in inequalities in digital competitiveness in different areas (Sassen, 2005). Bangkok is a city that is likely to experience the rapid impacts of digital technology more quickly than other areas.

Digital technology, which has become an essential element of everyday life, showcases diverse digital social features, such as usage patterns, consumption behaviors, and overall well-being. The effects encompass both positive and negative aspects, but the intriguing concern is the adverse consequences of insufficient digital literacy, which leads to risks like online gambling and unlawful activities (Kwak et al., 2021; Thianthai & Tamdee, 2024). This research explores the problem of online football gambling, which illustrates the blend of various media and presents risks to youth and adolescents.

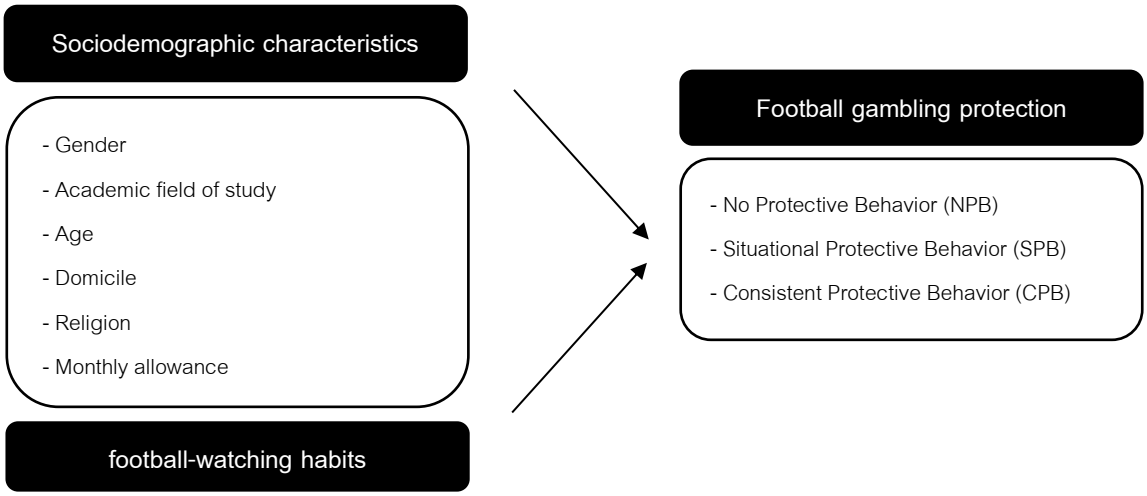

Figure 1 Conceptual Framework

Materials and Methods

For the purpose of examining how Thai university students are protected from online football gambling, we conducted quantitative data analysis in this research; the Human Research Ethics Committee of Srinakharinwirot University granted approval for conducting the study (certification ID: SWUEC-672266).

1. Population and Samples

In this study, with regard to gender, our participants consisted of males (55.6 per cent), females (32.1 per cent), LGBTQIA+ (8.7 per cent), and those with N/A (3.6 per cent). The Thai university students who participated in the research were aged between 18 and 26 years. Most of our participants were studying in the fields of science, technology, and health (48.2 per cent), which represented the largest proportion of students at the universities where data was collected. However, since online gambling is illegal in Thailand, this research cannot specify the universities where data collection took place. For data collection, participants joined voluntarily and provided consent by action, that is, by anonymously completing a self-report questionnaire and returning it to the researcher either online.

Collection of data from participants started in May 2024. An online survey was sent to undergraduate students. We used convenience sampling to collect data from undergraduate students and classify them into three groups: social science and humanities undergraduate students; science, technology, and health undergraduate students; and fine and applied arts students. Although students were categorized into three academic groups, convenience sampling was employed because it allowed efficient access to a diverse characteristic of students within the constraints of limited resources and time (Stratton, 2021). The online survey mode was considered the most suitable for data collecting. To maintain data integrity, respondents' email

addresses were omitted, and each participant was permitted to submit the survey solely once to prevent duplicate entries.

A maximum response limit of 400 was set. At the end of the data collection in October 2024, there were a total of 392 participants who had completed the online survey, resulting in a response rate of 98%. The sociodemographic characteristics of the participants are shown in Table 1.

Table 1 Sociodemographic characteristics of the participants

Characteristics	Sociodemographic categories	*N*	%
Gender (%)	Male	218	55.6
	Female	126	32.1
	LGBTQA+	34	8.7
	N/A	14	3.6
Academic field of study	Social science and humanities (SH)	103	26.3
	Sciences, technology, and health (STH)	189	48.2
	Fine and applied arts (FA)	100	25.5
Age	Mean: 18-26 years old		20.40
	18-19 years old	124	31.8
	20+ years old	266	68.2
Domicile (%)	Bangkok	141	36.0
	Central	125	31.9
	North	24	6.1
	Northeast	46	11.7
	South	56	14.3
Religion (%)	Buddhist	349	89.0
	Non-Buddhist	43	11.0
Monthly allowance (%)	<THB 5,000	90	23.0
	THB 5,001-10,000	137	34.9
	THB 10,001-15,000	71	18.1
	THB 15,001-20,000	62	15.8
	> THB 20,000	32	8.2

2. Data Collection: Questionnaire Construction

In this research, participants had to complete 30 elements of a questionnaire we had constructed in 10–15 minutes, as it was an online questionnaire, and our goal was to minimize any interference with the participants' time.

Outcome variables

For the outcome variables, there were 12 questions, and we determined the scale value of online football gambling protection on a 5-point scale: 0 = never, 1 = rarely, 2 = occasionally, 3 = frequently, and 4 = very frequently. The questions included the following: When watching a football match, do you predict the outcome (win/loss) with your friends? Are you able to access websites to predict football match outcomes? If your favorite player is participating in the match, does your confidence in the outcome make you willing to risk money on predicting the result? The scale was newly developed based on a review of the literature, and its content validity was evaluated by three experts in demography, sociology, and behavioral science. A try-out was then conducted with 30 students from a group similar to the study sample to assess reliability, and Cronbach's alpha was calculated (α = 0.853).

We categorized the outcome variables into three groups of categorical variables for multinomial logit model anlysis: No Protective Behavior (total scores 0-16 point), Situational Protective Behavior (total scores 17-33 point), and Consistent Protective Behavior (total scores 34-48 point).

Independent variables

We classified the independent variables into two groups of aspects affecting online football gambling protection: (1) sociodemographic characteristics: gender (male, female, LGBTQA+, N/A), age, domicile (Bangkok, central, north, northeast, south), religion (Buddhist, non-Buddhist), and monthly allowance (<THB 5,000, THB 5,001-10,000, THB 10,001-15,000, THB 15,001-20,000, >THB 20,000); (2) watching football: football league watching (yes/no), channel (TV, official website, unofficial website, mobile application, other, no watching), the language of football commentaries (Thai, English, other, no watching), favorite football teams and players, and football fan items.

3. Data Analysis

The statistical method we selected for data analysis was the multinomial logit model. This statistical method is different from binary logit regression analysis, which can only be used to analyze variables which have been divided into two groups; however, the multinomial logit model can be used to analyze categorical variables divided into two or more groups based on nominal scales, aiming to present heterogeneity models (Cheng &

Long, 2007; Tutz, 2021); the variables regarding protection from online football gambling were divided into No Protective Behavior, Situational Protective Behavior, and Consistent Protective Behavior.

Before beginning analysis with the multinomial logit model, we decided to perform cross-tabulation analysis and the chi-square test of independence, which helped to show the relationship between each independent variable and Thai university students' ability to protect themselves from online football gambling, as well as to screen variables for inclusion in the multinomial model.

Results

1. Football Gambling Protection Profiles of Thai University Students

From the data collected during the 2024 UEFA European Football Championship tournament, which was held from June 14 to July 14, 2024, it was found that football betting in Thailand had a turnover of nearly 2,500 million baht (PPTV Online, 2024). Table 2 presents the results on football gambling protection among the study sample, which reflects the strength of digital resilience in football gambling among Thai university students.

Table 2 Football gambling protection of the study of sample

Football gambling protection	*N*	%
No Protective Behavior (NPB)	33	8.4
Situational Protective Behavior (SPB)	171	43.6
Consistent Protective Behavior (CPB)	188	48.0

In terms of the ability of Thai university students, who are the main target group of the gambling business, to protect themselves from football gambling, Table 3 describes the bivariate association between sociodemographic characteristics and football gambling protections among Thai university students. The results show that females and LGBTQIA+ individuals are more likely to exhibit consistent protective behavior, while males are more likely to exhibit situational protective behavior, compared to those with N/A gender identity. Meanwhile, social science and humanities Thai university student groups are more consistent protective behavior. Remarkably, non-Buddhist Thai university students are more situational protective behavior compared to Buddhist Thai university students, who tend to be consistent protective behavior from football gambling. Lastly, Thai university students with monthly allowance below the THB 10,001-15,000 range tend to be more consistent protective behavior from online football gambling compared to those from other groups.

Table 3 Descriptive statistics, sociodemographic characteristics and football gambling protection

Variable categories	*N*	Football gambling protection			Total (%)	X^2
		NPB (%)	SPB (%)	CPB (%)		
Gender (N = 392, p-value = <.001)						
Male	218	12.4	56.9	30.7	100.0	65.56***
Female	126	1.6	25.4	73.0	100.0	
LGBTQA+	34	8.8	23.5	67.6	100.0	
N/A	14	7.1	50.0	42.9	100.0	
Academic field of study (N = 392, p-value = <.001)						
SH	103	3.9	32.0	64.1	100.0	18.91***
STH	189	11.6	49.7	38.6	100.0	
FA	100	7.0	44.0	49.0	100.0	
Age (N = 390, p-value = 0.567)						
18-19	124	8.1	40.3	51.6	100.0	1.14
20+	266	8.6	45.5	45.9	100.0	
Domicile (N = 392, p-value = 0.052)						
Bangkok	141	7.1	38.3	54.6	100.0	15.40
Central	125	6.4	51.2	42.4	100.0	
North	24	25.0	29.2	45.8	100.0	
Northeast	46	6.5	47.8	45.7	100.0	
South	56	10.7	42.9	46.4	100.0	
Religion (N = 392, p-value = 0.277)						
Buddhist	349	7.7	43.3	49.0	100.0	2.57
Non-Buddhist	43	14.0	46.5	39.5	100.0	
Monthly allowance (N = 392, p-value = <.001)						
<THB 5,000	90	2.2	33.3	64.4	100.0	64.18***
THB 5,001-10,000	137	5.1	34.3	60.6	100.0	
THB 10,001-15,000	71	22.5	47.9	29.6	100.0	
THB 15,001-20,000	62	11.3	56.5	32.3	100.0	
> THB 20,000	32	3.1	78.1	18.8	100.0	

Notes **p < .05. ***p < .01.

The bivariate association between football-watching characteristics and football gambling protections is shown in Table 4. Thai university students who watch football leagues such as the UEFA Champions League, Premier League, Bundesliga, La Liga, Serie A, Ligue 1, and Thai League have more Situational Protective

Behavior from online gambling, while those who do not watch the football of each league have a higher level of football gambling protection. Remarkably, Thai university students who watch football streaming via apps demonstrate different levels of football gambling protection compared to those who watch through other platforms. Most app viewers have a situational protective behavior. Notably, when their favorite teams are playing, those who support national teams tend to have a higher level of football gambling protection than other groups. Moreover, Thai university students who watch alone are less protected from online football gambling compared to those who do not watch alone. However, it can be observed that unofficial websites, which are among the popular channels for watching football, serve as a major source of advertisements promoting football gambling and contribute to the rapid growth of the underground economy.

Table 4 Descriptive statistics, characteristics in football-watching habits and football gambling protection

Variable categories		*N*	Football gambling protection			Total (%)	X^2
			NPB (%)	SPB (%)	CPB (%)		
Watch football league (N = 392, p-value = <.001)							
UEFA:	Yes	216	13.4	59.3	27.3	100.0	84.05***
	No	176	2.3	24.4	73.3	100.0	
Premier:	Yes	202	14.9	54.0	31.2	100.0	55.14***
	No	190	1.6	32.6	65.8	100.0	
Bundesliga:	Yes	96	25.0	54.2	20.8	100.0	64.27***
	No	296	3.0	40.2	56.8	100.0	
LaLiga:	Yes	121	23.1	52.9	24.0	100.0	69.52***
	No	271	1.8	39.5	58.7	100.0	
Series A:	Yes	93	20.4	57.0	22.6	100.0	42.27***
	No	299	4.7	39.5	55.9	100.0	
Ligue A:	Yes	85	20.0	51.8	28.2	100.0	27.75***
	No	307	5.2	41.4	53.4	100.0	
Thai:	Yes	200	13.5	52.5	34.0	100.0	36.49***
	No	192	3.1	34.4	62.5	100.0	
Football streaming (N = 267, p-value = <.001)							
TV		70	11.4	42.9	45.7	100.0	33.90***
Official Website		47	17.0	46.8	36.2	100.0	
Unofficial Website		98	14.3	72.4	13.3	100.0	
Apps		52	3.8	44.2	51.9	100.0	

Table 4 (continued)

Variable categories	*N*	Football gambling protection			Total (%)	X^2
		NPB (%)	SPB (%)	CPB (%)		
Favorite football team (N = 233, p-value = 0.754)						
Top European Club Teams	193	13.5	57.5	29.0	100.0	0.57
Non- Top European Club Teams	40	12.5	52.5	35.0	100.0	
Favorite football player (N = 226, p-value = 0.374)						
European	125	11.2	59.2	29.6	100.0	1.97
Non- European	101	16.8	51.5	31.7	100.0	
Watch alone (N = 348, p-value = <.001)						
Watch alone	257	8.9	54.5	36.6	100.0	14.61***
No watch alone	91	9.9	31.9	58.2	100.0	

Notes **p < .05. ***p < .01.

2. Heterogeneity in the Football Gambling Protection of Thai University Students

Results from multivariate analyses performed through multinomial logit models to determine how socio-demographics correlate with football gambling protection are shown in Table 5. Model 1 shows that Thai university students aged 18–19 years old have more situational protective behavior from football gambling compared to no protective behavior from online football gambling; the number in this group with more Situational Protective Behavior was also higher than that in the group of Thai university students aged 20 years and above. The odds ratio was 2.235.

Meanwhile, Model 2 shows that Thai university students with monthly allowance of 10,001-15,000 baht are less likely to have more situational protective behavior compared to no protective behavior than Thai university students with monthly allowance of more than 20,000 baht. The odds ratio was 0.085. Similarly, in Model 3, the odds ratio was 0.055.

Lastly, Model 3 further shows that Thai university students studying in the fields of science, technology, and health are less likely to have more consistent protective behavior from online football gambling compared to no protective behavior than those in the field of fine and applied arts; the odds ratio was 0.082.

Table 6 shows results from the multinomial logit model used to determine how watching football correlates with football gambling protection. Looking first at Model 1, it shows that Thai university students who do not watch the Bundesliga league and La Liga league have more Situational Protective Behavior compared to no protective behavior than Thai university students who watch the Bundesliga league and La Liga league; the odds ratios were 4.831 and 9.102, respectively. Similarly, Thai university students who do not watch the Bundesliga league

and La Liga league have more Consistent Protective Behavior compared to no protective behavior than Thai university students who watch the Bundesliga league and La Liga league; the odds ratios were 6.851 and 10.296, respectively.

Model 2 shows that Thai university students who watch football through official websites are less likely to have more Situational Protective Behavior compared to no protective behavior than those who watch football through apps, with an odds ratio of 0.250. Similarly, those who watch football through unofficial websites are less likely to have more Consistent Protective Behavior compared to no protective behavior than those who watch through apps, with an odds ratio of 0.071.

Finally, when including all variables of watching football, Model 3 shows that Thai university students who do not watch the Bundesliga league and La Liga league have more Situational Protective Behavior compared to no protective behavior than Thai university students who watch the Bundesliga league and La Liga league; the odds ratios were 4.993 and 9.015, respectively. Similarly, Thai university students who do not watch the Bundesliga league and La Liga league have more Consistent Protective Behavior compared to no protective behavior than Thai university students who watch the Bundesliga league and La Liga league; the odds ratios were 8.794 and 12.507, respectively.

In addition, those who watch football on TV are less likely to have more consistent protective behavior compared to no protective behavior than those who watch through apps, with an odds ratio of 0.197, and Thai university students who watch football through unofficial websites are less likely to have more consistent protective behavior compared to no protective behavior than those who watch football through apps, with an odds ratio of 0.051.

Table 5 Results from multinomial logit model determining sociodemographic correlates of football gambling protection

	Football Gambling Protection					
	Model 1 (ref: NPB)		Model 2 (ref: NPB)		Model 3 (ref: NPB)	
	SPB	CPB	SPB	CPB	SPB	CPB
	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]
Gender (ref: N/A)						
Male	0.531 (1.118) [0.059-4.746]	0.279 (1.142) [0.030-2.615]			0.364 (1.187) [0.036-3.729]	0.164(1.259) [0.014-1.939]
Female	1.853 (1.319) [0.140-24.604]	6.168 (1.328) [0.456-83.358]			2.113 (1.406) [0.134-33.264]	5.146 (1.459) [0.295-89.842]
LGBTQA+	0.333 (1.277) [0.027-4.067]	0.973 (1.266) [0.081-11.622]			0.188 (1.359) [0.013-2.699]	0.426 (1.394) [0.028-6.544]

Table 5 (continued)

	Football Gambling Protection					
	Model 1 (ref: NPB)		Model 2 (ref: NPB)		Model 3 (ref: NPB)	
	SPB	CPB	SPB	CPB	SPB	CPB
	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]
Academic field of study (ref: FA)						
SH					0.854 (0.739) [0.201-3.635]	0.956 (0.753) [0.219-4.182]
STH					0.457 (0.572) [0.149-1.403]	0.188 (0.616)*** [0.056-0.630]
Age (ref: 20+)						
18-19	1.107 (0.422) [0.484-2.530]	2.235 (0.434)* [0.955-5.233]			1.086 (0.499) [0.409-2.889]	2.377 (0.534) [0.835-6.765]
Domicile (ref: South)						
Bangkok					1.203 (0.627) [0.352-4.112]	1.482 (0.666) [0.402-5.465]
Central					2.067 (0.638) [0.592-7.219]	1.601 (0.689) [0.415-6.185]
North					0.232 (0.859) [0.043-1.252]	0.299 (0.916) [0.050-1.797]
Northeast					2.737 (0.829) [0.539-13.893]	2.660 (0.888) [0.467-15.164]
Religion (ref: Buddhist)						
non-Buddhist	0.608 (0.528) [0.216-1.712]	0.459 (0.559) [0.154-1.374]			0.706 (0.612) [0.213-2.343]	0.542 (0.659) [0.149-1.972]
Monthly allowance (ref: > THB 20,000)						
<THB 5,000			0.600 (1.254) [0.051-7.012]	4.833 (1.298) [0.380-61.491]	0.524 (1.310) [0.040-6.834]	4.360 (1.374) [0.295-64.425]
THB 5,001-10,000			0.269 (1.097) [0.031-2.307]	1.976 (1.150) [0.208-18.809]	0.191 (1.146) [0.020-1.804]	1.128 (1.221) [0.103-12.351]
THB 10,001-15,000			0.085 (1.064)** [0.011-0.684]	0.219 (1.130) [0.024-2.003]	0.055 (1.117)*** [0.006-0.489]	0.082 (1.213)** [0.008-0.887]
THB 15,001-20,000			0.200 (1.101) [0.023-1.729]	0.476 (1.166) [0.048-4.680]	0.151 (1.143) [0.016-1.423]	0.345 (1.233) [0.031-3.870]
Log-likelihood	82.533		38.688		377.620	
Likelihood ratio	X^2 = 78.231; p < 0.000		X^2 = 61.752; p < 0.000		X^2 = 159.318; p < 0.000	
Pseudo R^2 (Cox and Snell)	0.182		0.146		0.335	
N	390		392		390	

Notes Robust standard errors in parentheses, [ ] = 95% CI, *p < .10. **p < .05. ***p < .01.

Table 6 Results from multinomial logit model determining football-watching habits correlates of football gambling protection

	Football Gambling Protection					
	Model 1 (ref: NPB)		Model 2 (ref: NPB)		Model 3 (ref: NPB)	
	CPB	SPB	CPB	CPB	SPB	CPB
	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]
Watch football league - UEFA (ref: yes)						
No	0.219 (0.891) [0.038-1.257]	1.319 (0.877) [0.237-7.352]			0.264 (0.888) [0.046-1.503]	0.841 (0.900) [0.144-4.911]
Watch football league - Premier (ref: yes)						
No	1.540 (1.030) [0.205-11.590]	1.194 (1.023) [0.161-8.862]			1.288 (1.082) [0.154-10.746]	0.593 (1.093) [0.070-5.057]
Watch football league - Bundesliga (ref: yes)						
No	4.831 (0.691)** [1.248-18.709]	6.851 (0.748)*** [1.581-29.693]			4.993 (0.708)** [1.247-19.993]	8.794 (0.781)*** [1.904-40.618]
Watch football league - LaLiga (ref: yes)						
No	9.102 (0.806)*** [1.875-44.177]	10.296 (7.931)*** [2.032-52.176]			9.015 (0.866)*** [1.653-49.182]	12.507 (0.781)*** [2.166-72.225]
Watch football league - Series A (ref: yes)						
No	0.376 (0.727) [0.91-1.563]	0.818 (0.792) [0.173-3.865]			0.361 (0.747) [0.084-1.563]	0.559 (0.844) [0.107-2.924]
Watch football league - Ligue A (ref: yes)						
No	0.829 (0.628) [0.242-2.837]	0.322 (0.722) [0.078-1.325]			0.953 (0.653) [0.265-3.424]	0.480 (0.761) [0.108-2.134]
Watch football league - Thai (ref: yes)						
No	0.680 (0.544) [0.680-5.726]	2.709 (0.556)* [0.912-8.049]			1.883 (0.585) [0.598-5.924]	1.828 (0.631) [0.531-6.292]
Football streaming (ref: Apps)						
TV			0.341 (0.840) [0.066-1.768]	0.288 (0.834) [0.056-1.476]	0.279 (0.887) [0.049-1.584]	0.197 (0.898)* [0.034-1.143]
Official Website			0.250 (0.847)* [0.047-1.315]	0.144 (0.853) [0.027-0.766]	0.219 (0.898) [0.038-1.275]	0.175 (0.914) [0.029-1.048]
Unofficial Website			0.422 (0.795) [0.089-2.004]	0.071 (0.829)*** [0.014-0.361]	0.288 (0.849) [0.054-1.518]	0.051 (0.898)*** [0.009-0.294]

Table 6 (continued)

	Football Gambling Protection					
	Model 1 (ref: NPB)		Model 2 (ref: NPB)		Model 3 (ref: NPB)	
	CPB	SPB	CPB	CPB	SPB	CPB
	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]	Odds ratio [95% CI]
Watch alone (ref: watch alone)						
No watch alone			0.536 (0.461) [0.217-1.324]	1.411 (0.471) [0.561-3.550]	0.383 (0.521) [0.138-1.063]	1.069 (0.537) [0.373-3.064]
Log-likelihood	146.188		60.448		246.729	
Likelihood ratio	X^2 = 132.198; p < 0.000		X^2 = 45.836; p < 0.000		X^2 = 97.639; p < 0.000	
Pseudo R^2 (Cox and Snell)	0.286		0.158		0.307	
N	392		266		266	

Notes Robust standard errors in parentheses, [ ] = 95% CI, *p < .10. **p < .05. ***p < .01.

Discussion and Conclusion

This study utilized a multinomial logit model to understand how Thai university students protect themselves from online football betting. We found several important factors that affect the regulation of self-protection from online football betting among students in Thai universities, including age, monthly allowance, academic field of study, specific league-viewing habits, and football content platforms.

In addressing youth gambling protection, government organizations are recognized as pivotal in fostering effective protective measures. Proactive operational strategies that strategically engage youth social groups, particularly those with an interest in sports, through diverse mass media platforms are instrumental in cultivating resilience against gambling behaviors. Additionally, the formulation of comprehensive guidelines to support young individuals seeking to disengage from gambling represents a critical approach. Government initiatives thus serve as a fundamental mechanism in advancing efforts to mitigate the prevalence of gambling among youth (Lole et al., 2024).

In Thailand, gambling by youth under 20 years old is covered by both the Gambling Act of 1935 and the Child Protection Act of 2003, reflecting the effect of gambling in this age group and offering greater legal protection compared to other age groups (Srisupan et al., 2019). Moreover, adolescents perceive online gambling as a means to generate "working funds," a perception that aligns with their interest in sports, particularly football, and drives them towards online football betting. Teen gambling also carries higher risks and greater involvement compared to gambling in other age groups due to easy digital access and elements of an environment conducive to gambling, such as friends or seniors who gamble, unofficial football streaming sites, and betting site reviews shared by friends or seniors (Langka et al., 2021; Thianthai & Tamdee, 2024). The

heightened awareness among Thai government organizations regarding the risks and threats posed by online gambling presents a significant opportunity to link youth gambling issues with the development of campaigns or social promotions. These initiatives can effectively communicate messages about the dangers of gambling behaviors to at-risk youth.

In the context of football leagues, the study by Winkelmann et al. (2024) shows that the Bundesliga and La Liga are leagues with high levels of gambling activity, associated with the favorite-longshot bias and sentiment bias. The enthusiasm of football fans watching these two leagues contributes to football betting behavior. Additionally, betting on La Liga is also linked to a home bias. These associations reflect differences among viewers of the Bundesliga and La Liga, who are more likely to engage in football betting and tend to exhibit no protective behavior, compared to those who do not watch these leagues.

In conclusion, this research highlights the idea that participants' income and access to watching platforms significantly affect protection of online football gambling. The findings provide clear guidelines for protecting football gambling among youth, emphasizing the roles of governmental and civil society organizations in supporting efforts to mitigate this issue. These organizations must recognize the necessity of addressing online media channels that often promote football gambling. At the same time, protective strategies should also target the root cause, including strict measures against illegal gambling groups, which are essential for reducing opportunities for gambling participation. The study suggests that government organizations should invest in developing social campaign content through digital platforms to effectively reach youth who watch football. Additionally, activities should focus on regulating and protecting gambling from being exploited in ways that create risks for young people.

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