

A Multi-Group Analysis of Moderating Effects on Gambling Motives Influencing Online Gambling Models of Undergraduates in Thailand

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Abstracts

Even though online gambling in Thailand is currently illegal, there have been increasing numbers of participation during adolescence. This can result in delinquency, adverse mental health and poor academic achievement. The article aimed to examine influence of gambling motives on online gambling model of undergraduates in Thailand and to investigate moderating effects of demographic and online gambling behavioral characteristics behave while testing the models. The research was a quantitative research using questionnaire with reliability value at 0.874. Data were collected by approaching purposive selection and quota sampling. Thailand was divided into 6 regions and collecting data from 70 current undergraduates experienced with online gambling in each region.

Multiple regression was used to examine influence of gambling motives on online gambling model. Furthermore, the sample was categorized as sectors with various genders, incomes, gambling activities engagement and levels of online gambling behaviors including frequency, experience and expenditure. The models which had these demographic and online gambling behavioral aspects role as moderators were estimated separately for each moderator by using multi-group analysis.

The results found that all gambling motives significantly influenced online gambling of undergraduates in Thailand ($R^2=.656$). Interestingly, the most significant influential variables were socialization ($\beta=.365$), winning ($\beta=.354$), escape ($\beta=.335$) and challenge ($\beta=.105$) respectively. Moreover, all moderating effects with exception of income and gambling activity engagement had statistically significant differences in the gambling motives influencing online gambling models among subsamples. Although, gambling motives behave differently in each model which had those aspects, only challenge insignificantly influenced on majority subsamples. Socialization played a greater role in female undergraduates. In addition, all subsamples with serious level of online gambling behaviors were significantly influenced by winning. Therefore, it is beneficial for parental and educational institutes to understand intrinsic and extrinsic gambling motives and provide potentially preventive measures to different subsamples accurately.

Keywords: A Multi-Group Analysis; Moderating Effects; Gambling Motive Influencing Online Gambling Models

Introduction

Currently, there are countries in many continents especially North America, Asia, Europe and Australia where gambling is legal because it can bring substantial economic benefits such as increased tax revenue and enhanced tourism. Although gambling has been a controversial issue associated with legalization in Thailand, there are considerable numbers of illegal participation that is particularly appealing to adolescents has been increasingly appeared in recent years (Calado et al., 2017 : 398). Nowadays, due to the digital age in the new millennium, land-based forms of gambling have led to the saturation, there was a rapid alternation of gambling accessible trends. Increased availability of technologies with high speed internet access played an essential role in gambling offered through internet-enabled devices became increasingly prevalent (King et al., 2014 : 307). Explicitly, online gambling has been continuously rising considerable populations of gamblers facilitated by common technological advances including smart phones, tablets, laptops and computers.

However, the widespread of online gambling was also related to be problematic for social issues including delinquent behavior and financial problem. Because of comfortable accessibility, incomprehensive monitoring and lack of regulation, underage groups were paid attention to understand gambling motives because there was a high likelihood to suffer with gambling problems owing to ineffective coping methods (Orford et al., 2009 : 41). Engagement with online gambling among undergraduates aged as late adolescents has been raised concerns because school juveniles had positive attitudes toward online gambling, it could lead to poor academic achievement, drug abuse and social deterioration (Kang et al., 2019 : 2122). As a result, it was associated with risks influenced life accomplishments, therefore preventive measures should be launched since in school to potentially alleviate gambling problems.

To acknowledge up to date information about influence of gambling motives on online gambling model has been extensively studied because gambling motives are strongly related to gambling behaviors, gambling problems and gambling consequences. Previous literature has highlighted the most widely acknowledged model for describing gambling motives. Parental attachment is important to develop attitudes and adopt behaviors for children because they tend to learn how to behave by imitating their guardians acted as role models. Likewise, school connectedness has powerful influences on gambling participation among adolescents (Felsher et al., 2003 : 362-375). In addition, gambling regarded as psychological tool can either enhance positive feeling or eradicate negative feeling. For example, gamblers may gamble for gaining excitement, relieving stress or escaping boredom (Donati et al., 2020 : 1-4). Furthermore, monetary motive potentially correlates with gambling, winning money from gambling is inherent. Thus, there is a tendency that gamblers engage in gambling for earning money (Rodriguez et al., 2014 : 1598-1613).

Moreover, to investigate moderating effects behave among subsamples with various genders, incomes, levels of online gambling behaviors and gambling activities engagement are imperative because the gambling motives influenced the subsamples with those characteristics differently. There are different motivations why adolescent gamblers gambled online and their influences are related to different levels of gambling risk. Gavriel et al. (2015 : 201) noted that the most common reported associated with gambling participation was earning money and males were more likely to gamble for money than females. In addition, social connectedness appeared to convince adolescents with high income whose parents and friends gambled, they will have positive attitudes towards gambling (Walters, 2020 : 37). Furthermore, levels of

gambling behaviors were associated with psychological variables, it may result gamblers with serious gambling behavior in becoming pathological gamblers (Riley et al., 2021: 993). Besides, even though some researchers endeavor to study gambling motives influencing types of gambling activity, in light of the consideration skilled and non-skilled gambling activities have been focused.

Therefore, due to the aforementioned reasons, it is important to examine influence of gambling motives on online gambling model of undergraduates in Thailand where gambling has been prohibited. And to address the previous limitations, to investigate moderating effects of demographic and online gambling behavioral characteristics behave among each subsample. Because the subsamples strongly influenced by gambling motives probably gamble with serious levels of online gambling behaviors and they highly tend to become pathological gamblers. Consequently, protection measures should be initially introduced to gamblers with both serious or light levels of online gambling behavior during adolescence to avoid experiencing with gambling problems. This is advantageous for providing preventive measures implemented by parental and educational institutes to reduce online gambling participation and it can alleviate prevalence of gambling problems possibly appeared among undergraduates in Thailand.

Research Objectives

- 1) To examine influence of gambling motives on online gambling model among undergraduates in Thailand
- 2) To investigate moderating effects of gender, income, frequency, experience, expenditure and gambling activity behave while testing the gambling motives influencing online gambling models.

Literature Review

Online Gambling

Online gambling occurred on internet-based systems developed by gambling software providers. Registration and depositing money to gambling operators were required after that gamblers could start betting. In the systems, different gambling activities including casino games, sports betting, lotteries and games were served, gamblers therefore could choose the preferred gambling activities (Monaghan, 2009 : 203). Based on convenient accessibility, the prevalence of online gambling participation has been emerged because of ubiquitous engagement, online gamblers without comprehensive monitoring and extensive regulations and it was reported to be at greater risks of gambling problems.

Gambling motives influencing online gambling

Gambling motives divided into two categories either pushed from within or outside gamblers were defined as stimuluses causing gamblers to wager. Based on comprehensive literature reviews, there have been line with previous research attempted to develop the models of gambling motivations influencing online gambling by combining internal and external motives. In terms of gambling research, internal motives related to enhancement and alleviation of gamblers' negative feeling, attitudes and goals correlated with emotion management. According to the nature of gambling, it could lead gamblers to perceive excitement and challenge in unpredictable outcomes. Challenge is more likely to influence

gamblers with serious levels of gambling behavior and they strongly tend to become pathological gamblers (Lee et al., 2014: 853-856). Similarly, gambling was likely to escape boredom and relieve stress because it could act as a recreational activity. Although many earlier studies in the gambling field found that escape had influence on gambling, this is not emerged in heavy gamblers who gambled with serious levels of gambling behavior. Owing to this serious behavior, there was a tendency to suffer with gambling problems especially financial problems

Moreover, external motives associated with uncontrollable environments consisted of winning and socialization. Despite the study of the majority of previous literature endeavored to understand influence of winning on gambling. Gamblers desired to earn money from winning of betting. This is identical to investments, but there were high risks in wager and return from gambling could gain big rewards instantly (Platz & Millar, 2001: 384-393; Neighbors et al., 2002 : 362-368; Lee et al., 2006 : 857-864; Lee et al., 2014: 846-856) In addition, attachment to parents, families and friends with attitudes towards gambling influenced gambling participation. Stewart and Zack (2008 : 1114-1115) indicated social connectedness played a greater role in light gamblers because gamblers may comply with social norms. Acceptance, imitation and conventionalization can lead individuals to engage in gambling. In spite of different forms of gambling engagement, it is widely acknowledged that the measurement of gambling motivation including challenge, escape, winning and socialization has been utilized in the context of online gambling. Thus, hypothesis 1 can be proposed to examine influence of gambling motives on online gambling model among undergraduates in Thailand.

Moderating effects of demographic characteristics

In line with the literature, influence of gambling motives on gambling engagement was different between males and females. Majority of studies found that there were more gambling participation and multiple gambling activities engagement in male adolescents because they had positive attitudes toward gambling as an immediate earning money method, hence gambling for money occurred to be the strong predictive factor influencing gambling engagement in males and they were likely to take risk of gambling (Gavriel et al., 2015 : 201). On the other hand, even though socialization played a greater role in gambling participation among adolescents with both genders than internal motives, Stewart and Zack (2008 : 1114-1115) found that social connectedness more influenced in females owing to poor school and parental attachments, if friends, parents or relatives engaged in gambling, there was a tendency for female adolescents to gamble for meeting social needs and easing loneliness.

Additionally, adolescents gambled to deal with feelings similar to engagement with meaningful leisure activities. While alleviated boredoms and sensations seeking tended to influence gambling engagement particularly in males, there was a higher score on positive feeling encouragement in female gamblers with gambling problems and frequent female gamblers were likely to have more gambling problems (Marchica et al., 2017: 437-448). On the contrary, Stewart and Zack (2008 : 1114-1115) reveal the opposite results that women often gamble to manage negative emotion and the coping factor was more strongly influence in probable pathological female gamblers. This is in alignment with Coman et al. (1997: 242) who found that male gamblers gamble for excitement, but female gamblers participated in gambling in order to relieve stress. To summarize, the previous studies have clearly proved that gambling motives differently influenced between male and female gamblers, those studies found various findings. Hence, hypothesis 2 can be proposed to investigate gambling motives

influencing online gambling models were significantly different while gender acted as a moderator.

Moreover, regarding to gambling considered as a risky behavior, gamblers are required depositing money to gambling operators before betting. The common problem found in most studies was associated with financial pressure and getting debt because gamblers aimed to engage in gambling for earning money. Thus, they tended to increase odds after loss of betting in order to return money back, consequently gamblers may suffer with these adverse outcomes because of rising level of risk problems (Sharman, 2019: 20-26). Low-income gamblers were more reported to suffer with gambling problems since they had limited monetary resources to handle with loss. Similarly, high-income gamblers were also involved with gambling problem unless they gambled with carefulness and control (Pearce et al., 2008: 862-867). However, a moderating effect of income among adolescent gamblers has not yet been clearly proved in the existing literature. Due to unemployment, undergraduates could be convinced to take part in gambling for earning money and suffering with problems. Thus, hypothesis 3 can be proposed to investigate gambling motives influencing online gambling models were significantly different while income acted as a moderator. This study excluded age and educational levels because the samples were current undergraduates.

Moderating effects of online gambling behaviors

Based on previous studies, there were research gaps needed to investigate gamblers with different online gambling behaviors because these behavioral aspects were generally associated with risks of gambling problems (Riley et al., 2021: 983-994). Heavy gamblers who gambled frequently, with larger amount of betting and with long experience were likely to be probable pathological gamblers. They scored considerably higher on gambling motives of emotion regulation and these psychological motives were strong predictive factors which led gamblers to have greater gambling behaviors and face with gambling problems because gambling for excitement consistently stimulated to more frequent, larger expenditure and more gambling activities. The internal motives strongly influenced gambling participation in high-risk gamblers and they were consistently predicted more suffer with severe gambling problems (Steward & Zack, 2008: 1114-1115)

On the other hand, in spite of limited literatures exploring moderating effects of online gambling behaviors behave, prior studies have reported that younger generation gamblers were classified as light gamblers and non-probable pathological gamblers. (Gori et al., 2015: 725-738) explored that external motives especially socialization played a crucial role in this group because they spend most of their time together with their friends and families. Furthermore, based on age of undergraduates, they could be regarded as adolescents who had inadequate levels of control to cope with financial desires from gambling participations. Hence, in this study, gambling behaviors were classified into two subsamples with low and high levels of frequency, experience and expenditure and hypotheses 4, 5 and 6 can be proposed to investigate gambling motives influenced online gambling models among subsamples were significantly different while frequency, experience and expenditure acted as moderators.

Moderating effect of gambling activity

Gambling activities could be divided into two types; skilled and non-skilled gambling activities. Skilled gambling activities including sports betting, poker and blackjack all require a great deal of strategy in order to gamble. Gamblers need to formulate strategy by understanding nature of each activity. After that implementation of statistical analysis is essential to take advantages of winning opportunities. On the contrary, non-skilled gambling

activities were defined as luck-based forms that most of them including baccarat, roulette and lottery were not involved with any skill in the playing process. Steward and Zack (2008: 1114-1115) described that sensations seeking and socialization correlated with more gambling activities engagement. However, due to the limitations of previous literature, it is necessary to explore a moderating effect of gambling activity which investigate between sports betting and casino games in this study. Oksanen et al. (2019 : 162-170) indicated that sports betting was more associated with gamblers who gambled online than non-skilled gambling activities. Thus, hypothesis 7 can be proposed to investigate gambling motives influenced online gambling models among subsamples were significantly different while gambling activity acted as a moderator.

Research Methodology

Sample and Data collection

The samples were current undergraduates in Thailand who had previous experience with online gambling. According to infinite population, Vanichbuncha (2005 : 83)'s sampling technique was applied by determining confidence interval at 95%, hence the sample size of this study was 420 samples. In addition, multi - stage random sampling was employed. To begin with purposive selection sampling, area of Thailand was divided into 6 regions based on their locations. Subsequently, quota sampling was used to collect data from the 70 samples in each region by concentrating on harm prevention which may cause negative consequences to the samples.

Instrument

This study was a quantitative research using a five-point Likert scale questionnaire. The notions were reviewed through previous literature. The measurement developed by Lee et al. (2006 : 859) was adopted. The section of gambling motives including three items of socialization, three items of challenge, three items of escape and four items of winning The questionnaire was translated into Thai by professional bilingual translators, who were fluent in both English and Thai. Afterwards, it was examined content validity by three experts in the field of sports management. Then, the revised questionnaire was examined reliability and its Cronbach's alpha coefficient was at .874.

Data Analysis

The AMOS 24.0 statistic program was used for data analysis. The data were analyzed by using Multiple Regression Analysis to examine influences of gambling motives on online gambling model of undergraduates in Thailand. Furthermore, using Multi-Group Analysis to test how different moderating effects of gender, income, frequency, experience, expenditure and gambling activity behave while testing the gambling motives influencing online gambling models (Henseler & Fassott, 2010 : 46).

Research Conceptual Framework

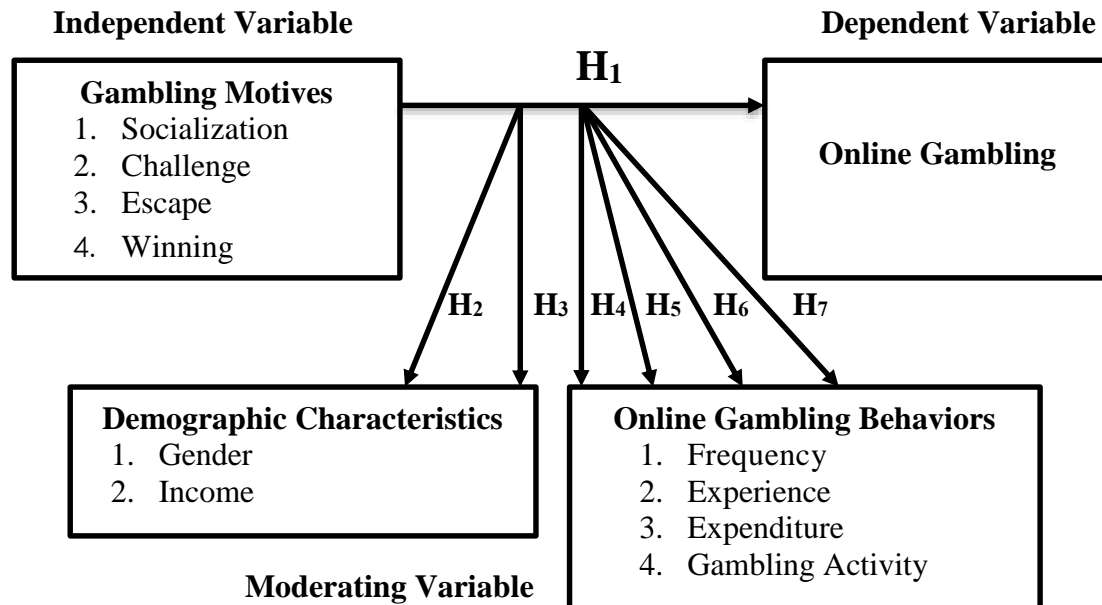


Figure 1 Conceptual Framework

With regard to the comprehensive literature, the conceptual framework indicated examination and investigation of all 7 hypotheses was shown in figure 1.

Research Result

Result of demographics and online gambling behavioral characteristics

Table 1 Distribution of demographics and online gambling behavioral characteristics

Characteristics	n	%
1. Gender		
Male	274	65.2
Female	146	34.8
2. Income		
Less than 5,000 baht	102	24.3
5,001 – 10,000 baht	125	29.8
10,001 – 15,000 baht	129	30.7
More than 15,000 baht	64	15.2
3. Expenditure		
Less than 1,500 baht a week	134	31.9
1,501 – 3,000 baht a week	104	24.8
3,001 – 4,500 baht a week	44	10.5
4,501 – 6,000 baht a week	61	14.5
More than 6,000 baht a week	77	18.3

Characteristics	n	%
4. Frequency		
1 – 5 times a week	196	46.7
6 – 10 times a week	76	18.1
11 – 15 times a week	60	14.3
More than 15 times a week	88	21.0
5. Experience		
Less than 1 year	113	26.9
2 – 3 years	153	36.4
4 – 5 years	76	18.1
More than 5 years	78	18.6
6. Gambling Activity		
Casino games	246	35.4
Sports betting	208	29.9
Lotteries	184	26.5
Games	57	8.2

As shown in table 1, majority of respondents were male ($n = 274$, 65.2%), had monthly income ranged 10,001 – 15,000 baht ($n = 129$, 30.7%), had 2 – 3 years of online gambling experience ($n = 153$, 36.4%), gambled 1 – 5 times a week ($n = 196$, 46.7%), amount of money spent on online gambling a week less than 1,500 baht ($n = 134$, 31.9%) and casino games were the most preferred gambling activity ($n = 246$, 35.4%).

Descriptive result of gambling motives and online gambling

Initially, the data was found that skewness and kurtosis of all variables were a normal distribution. The overall of gambling motives had value of mean (\bar{x}) at 3.54. The primary motivation of online gambling was winning ($\bar{x} = 4.24$) consisting “winning for instant returns ($\bar{x} = 4.43$)”, “winning for big rewards ($\bar{x} = 4.39$)”, “winning for money ($\bar{x} = 4.21$)” and “winning back previous losses ($\bar{x} = 3.92$)”. Next, challenge was at a strongly agree level ($\bar{x} = 3.87$) including “for excitement ($\bar{x} = 4.14$)”, “for risk-taking ($\bar{x} = 4.08$)” and “for challenge ($\bar{x} = 3.38$)”. Thirdly, escape was found to be at a neutral level ($\bar{x} = 3.18$), the highest values of mean was “to alleviate boredom ($\bar{x} = 3.63$)”. The least important category of motivation was socialization ($\bar{x} = 2.89$), the highest values of mean was “because friends and families gambled ($\bar{x} = 3.03$)”. Moreover, the overall agreement level of online gambling was found at a neutral level ($\bar{x} = 3.32$).

Result of regression analysis

Table 2 presented that the squared multiple correlation (R Square) could be explained 65.6% of the variance in online gambling. All gambling motives significantly influenced online gambling of undergraduates in Thailand ($p < .01$); socialization ($\beta = .365$, $t = 9.779$), challenge ($\beta = .105$, $t = 2.809$), escape ($\beta = .335$, $t = 10.925$) and winning ($\beta = .354$, $t = 11.416$). Thus, hypothesis 1 was supported. Moreover, Variance Inflation Factor (VIF) was used to explain correlation values among the variables and multicollinearity was not detected because VIF did not exceed 2.0 (Vanichbuncha, 2005 : 108).

Table 2 Result of regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R Square	VIF
	B	Std. Error	Beta				
Socialization	.344	.035	.365	9.779	.000**	.656	1.682
Challenge	.129	.046	.105	2.809	.005**		1.680
Escape	.355	.032	.335	10.925	.000**		1.133
Winning	.433	.038	.354	11.416	.000**		1.159

** p < .01

Result of multi-group analysis

The undergraduates with various genders, incomes, levels of online gambling behavior including frequency, experience and expenditure and gambling activities engagement were categorized into two subsamples. Afterwards, gambling motives influencing online gambling models which had those aspects role as moderators were estimated separately for each moderator.

Table 3 Result of multi-group analysis

Moderator	Coefficient				Comparison Model	
	Socialization	Escape	Challenge	Winning	X ²	Sig.
Gender					28.58	0.000*
Male	0.242**	0.345**	0.180**	0.361**	Accept	
Female	0.634**	0.250**	0.003	0.204**		
Income					3.636	0.457
Lower 10,000 Baht	0.373**	0.314**	0.126*	0.318**	Reject	
Over 10,000 Baht	0.317**	0.366**	0.082	0.385**		
Frequency					27.216	0.000*
Below 10 times a week	0.445**	0.338**	0.073	0.218**	Accept	
Over 10 times a week	0.231**	0.292**	0.252*	0.549**		
Experience					31.084	0.000*

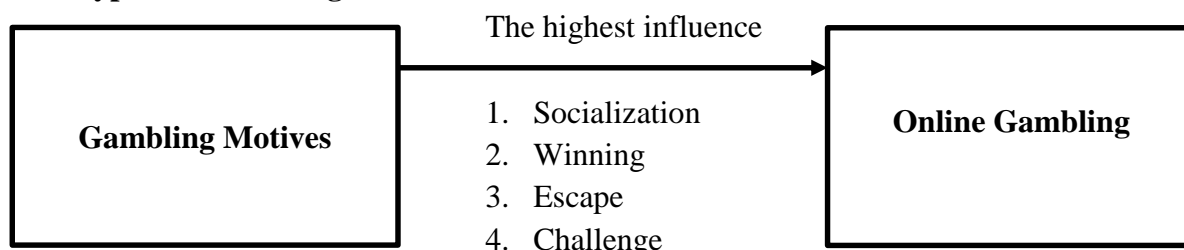
Moderator	Coefficient				Comparison Model	
	Socialization	Escape	Challenge	Winning	X ²	Sig.
Below 3 years	0.362**	0.379**	0.143**	0.255**	Accept	
Over 3 years	0.557**	0.271**	-0.191*	0.467**		
Expenditure					14.65	0.005*
Below 4500 Baht a week	0.438**	0.365**	0.081	0.209**	Accept	
Over 4500 Baht a week	0.447**	0.216**	-0.009	0.495**		
Gambling Activity					0.504	0.973
Sports Betting	0.407**	0.345**	0.031	0.349**	Reject	
Card Games	0.424**	0.347**	0.014	0.364**		

** p < .01, * p < .05

Hypotheses 2-7 were tested. Table 3 indicated that moderating effects of gender ($X^2 = 28.58$, $p = 0.000$), frequency ($X^2 = 27.216$, $p = 0.000$), experience ($X^2 = 31.084$, $p = 0.000$) and expenditure ($X^2 = 14.56$, $p = 0.005$) on the gambling motives influencing online gambling models were statistically significant differences ($p < .05$). Thus, hypotheses 2, 4, 5 and 6 were supported. However, the result showed no statistically significant differences in moderating effects of income ($X^2 = 3.636$, $p = 0.457$) and gambling activity ($X^2 = 0.504$, $p = 0.973$) on the gambling motives influencing online gambling models ($p < .05$). Thus, hypotheses 3 and 7 were not supported.

The hypotheses testing

Hypothesis 1 testing



Hypotheses 2-7 testing

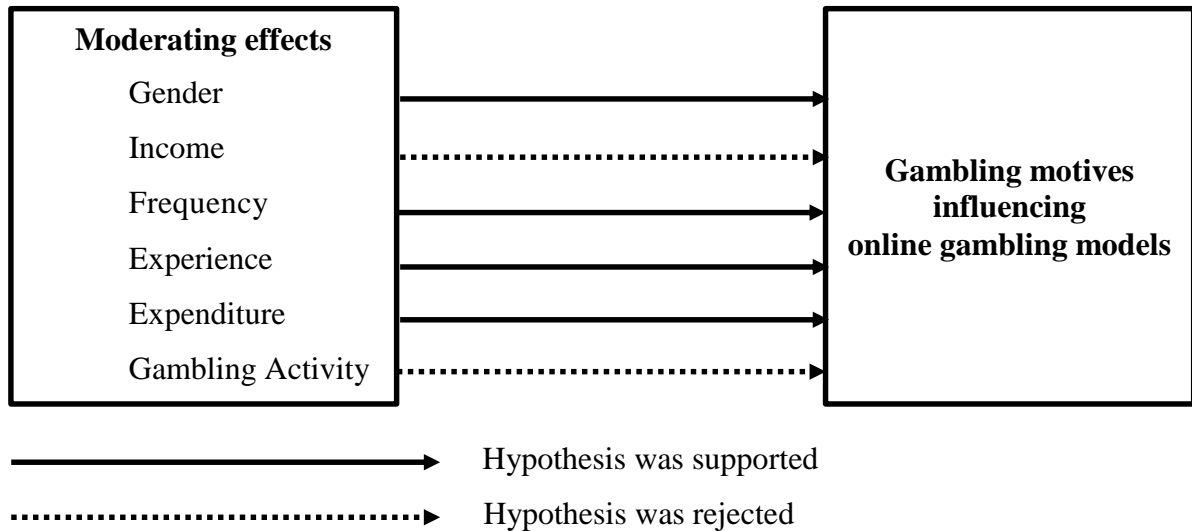


Figure 2 The hypotheses testing

As shown in figure 2, the regression result showed that the gambling motive which had the highest influence was socialization. This was followed by winning, escape and challenge. Furthermore, the result of multi-group analysis indicated that the hypotheses which had gender, frequency, experience and expenditure behaved as moderating variables were statistically significant differences in the gambling motives influencing online gambling models among subsamples. On the other hand, the moderating effects of income and gambling activity showed no statistically significant differences, thus hypotheses 3 and 7 were not supported.

Discussions

Interestingly, although socialization had the lowest mean value, the regression analysis indicated that it was the most significant variable influencing online gambling of undergraduates in Thailand. Due to maturity, the undergraduates aged late adolescence may imitate their parents, friends or relatives without considerations. It can be asserted that acceptance, imitation and conventionalization were likely to influence the undergraduates. This is consistent with Lee et al. (2006 : 860-865), Kang et al. (2019 : 2121-2123) and Walters (2020 : 37) who found that social connectedness had a powerful correlation with gambling. Younger generation gamblers tended to start gambling because they were raised awareness from surrounding society. Then they more likely to imitate what their connectedness specifically friends and families behave.

Moreover, multi-group analysis results revealed that gambling motives on online gambling models were significantly different. With regard to the result, females had considerable stronger influences of socialization than males. This influence was particularly strong in female society because attachment is crucial for adopt behavior. It is believed that manners of female community strengthened their social norms. The finding was in alignment with the study of Steward and Zack (2008: 1114-1115) and Gavriel et al. (2015 : 201) who found that socialization more influenced in females because of loneliness. Attachment to surrounding

societies including school and family connectedness was associated with gambling participation. Conversely, there was an insignificant influence of challenge in females. It could be accounted that despite online gambling considered as a recreational activity, the female undergraduates may not take part in for fulfilling fun or enjoyment because of high risks of gambling. Although majority of studies found that gaining excitement was likely to influence gambling engagement particularly in adolescents (Donati et al., 2020: 1-4; Farhat et al., 2020: 48-55; Pisarka & Ostaszewski, 2020: 35-39), reported the similar result of this study that challenge had the negligible influence among college students.

Additionally, there were significant differences in models which had frequency role as a moderator. Based on the result, the subsamples with infrequent gambling engagement considered as light gamblers were likely to gamble online with carefulness and concentration. Thus, online gambling may not be a chosen recreational activity for enhancing positive feelings nor an investing method for generating more income, but socialization had more strongly influence in this segment. On the other hand, in view of gamblers who often gambled, online gambling is thought to be a way of earning instant money. Hence, they may endeavor to increase odds and expect to gain higher rate of return since winning became the primary motivation. This finding was also consistent with previous studies (Platz & Millar, 2001: 384-393; Neighbors et al., 2002: 362-368; Rodriguez et al., 2014: 1598-1613) explained that gamblers could be considered as investors that they desired high return from investments. Furthermore, challenge was the least influential motive in the based model, it significantly influenced online gambling in only the subsamples with frequent gambling engagement. Previous studies indicated that gambling for challenge occasionally appeared among gamblers who gamble with frequency (Steward & Zack, 2008: 1111-1116).

Besides, even though gamblers who had long experience with online gambling were identically classified as heavy gamblers, connectedness has more powerful influences in this subsample than the other. The present study has expanded the understanding of socialization because its influence has been proven useful in affecting among long-experienced gamblers. It can be described that heavy gamblers were likely to gather with others who had similar desires. This was emerged to share information and strategies related to success in betting. In addition, surprisingly, there was a significantly negative influence in the subsample who had long experience. Apart from attachment and financial desire, intrinsic motives considerably influenced heavy gamblers to become pathological gamblers. Steward and Zack (2008: 1111-1116) suggested that as a result of suffering with online gambling problems, the long-experienced subsample probably had adverse attitudes toward online gambling and this may result in avoid gambling engagement.

Likewise, there was a significant difference in gambling motives on online gambling models between the subsamples gambled with low and high expenditure. Winning played a crucial role in online gambling among the subsamples. There was a strong link between monetary desires and online gambling. The undergraduates were likely to demand for enhancing wealth because they were in the current period of education. This finding was also consistent with previous studies (Platz & Millar, 2001: 384-393; Neighbors et al., 2002: 362-368; Rodriguez et al., 2014: 1598-1613) explained that winning was the key element affecting gambling participation, therefore, gamblers may search for instantly earning money ways or getting big rewards in order to spend on their daily life.

However, despite the insignificantly results of income and gambling activity role as moderators, their influence of gambling motives should not be overlooked. This is identical to the aforementioned significant results that socialization and winning were strongly related to online gambling participation in those subsamples. Explicitly, escape was a merely internal factor had more strongly influence in the subsamples. It could be explained that the undergraduates may face with psychological tensions from educational or financial pressures. Hence, with regard to being comfortable, there was a tendency to engage in gambling because it could be one of leisure activities chosen by the undergraduates. The finding was in alignment with the study of Steward and Zack (2008: 1111-1116) and Lee et al. (2014: 850-856) who revealed that coping factors associated with escape motives significantly influenced gambling participation and positive gambling outcomes since online gambling could act as a stress reliever.

Conclusion and Recommendation

As examination of this research, although intrinsic and extrinsic gambling motives played an essential role in online gambling of undergraduates in Thailand, the result evidently showed that the extrinsic motives more strongly influenced online gambling. The regression analysis showed that socialization was the most significant influential variables because the undergraduates were strongly influenced by social connectedness. They were more likely to imitate school and parental attachments that they often spend time with. Unless the undergraduates experienced with desirable connectedness, they may evaluate with inadequate carefulness and behave unsuitably. Therefore, parental institutes should pay attention to supervise negative consequences from online gambling. Offspring's awareness could be raised by understanding the adverse outcome and imitating parental attachments as role models. Likewise, universities' advisers should carefully monitor their advisees because school connectedness could strongly influence the undergraduates

Moreover, there were significant differences in the gambling motives influencing online gambling models which had gender, frequency, experience and expenditure role as moderators. Despite various influences on each subsample, monetary desires strongly correlated with heavy gamblers who gambled with frequency, high expenditure and long experience. Because of unemployment, they may participate in online gambling for earning money, hence scholarship and part-time jobs should be served by educational institutes. Furthermore, all subsamples engaged in online gambling for relieving harmful feeling. As a result, universities should offer alternative recreational activities such as sport events, concerts or fairs to undergraduates instead of online gambling participation. However, challenge was the variable which should not be neglected since it could influence online gambling in some subsamples, anti-online gambling campaigns should be launch to educate gambling-related harms to the undergraduates. In conclusion, it is beneficial for parental and educational institutes to understand intrinsic and extrinsic gambling motives and provide potentially preventive measures to different subsamples accurately.

Suggestion

According to the present research investigation, there were few limitations should be addressed. Initially, data were analyzed by using Multi-Group Analysis to test how the undergraduates with different gender, income, frequency, experience, expenditure and gambling activity behave while testing the gambling motives influencing online gambling models. The finding may not be generalized with other factors in terms of gambling research among undergraduates. There are further variables consisting of gambling passions and gambling problems should be included in future research to be beneficial for development of preventive measures. Furthermore, Structural Equation Model (SEM) should be undertaken to analyze

the casual factors which have linkages within the proposed theoretical model and evaluate the structural model.

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