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Sexual Abuse Along with Alcoholic Illusion

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Abstract

This research aimed to 1) develop a game theoretical model of sexual abuse and find the empirical equilibrium; and 2) determine factors affecting the behavior of female victims and male offenders associated with sexual harassment. This paper used the Survey of Alcoholic Illusion (SAI) as an essential tool to collect data from 200 Thai female participants and 200 Thai male participants whose ages ranged from 20 years to infinite years from a non–random convenience sample at nightlife areas in Bangkok from 2021 to 2022 with logistic regression analysis. The research results were found as follows: 1) the highest joint probability could be some intoxicated females' gestures of drunkenness possibly stimulating sexual abuse perpetrated by males with a conditional probability of 0.32, and the lowest conditional probability could be the sane condition for the female who sends the signaling for tipsiness to the male who is not behaving sexually abusively, with a joint probability of 0.01; 2) the factors affecting the behavior of female victims are frequency of alcoholic consumption with an odd ratio of 2.90, sexual preference with an odd ratio of 1.215, level of love and belonging with an odd ratio of 4.292, and the opinion of physical appearance with an odd ratio of 4.351. On the other hand, the frequency of alcoholic consumption, with an odd ratio of 2.359, and the opinion of physical appearance, with an odd ratio of 1.816, could have been influencing the male offenders. When the important variables for males and females were compared, it became clear that the significant variables for females, sex preference and levels of love and belonging, were insignificant for males. The difference in sensitivity between males and females is probably the primary factor; females react strongly to sentiments of love, belonging, and sexual inclination, while males may not exhibit high sensitivity.

Keywords: Sexual abuse; Alcohol; Signaling

Introduction

According to the United Nations, sexual abuse is “the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions” and is widely recognized as a global problem. It is shown in the statistics that 3 5 percent of global women have experienced sexual violence at some point in their lives; 15 million were girls aged 15 to 19, and 23 percent of female undergraduates were reported as having experienced sexual assault in 2015 (UN Women, 2020). The prevalence estimates for lifetime violence against intimate partners range from 25% in the WHO Regions of the Americas to 33% in the WHO African region, 31% in the WHO Eastern Mediterranean region, and 33% in the WHO South–East Asia region. High–income countries and the Western Pacific and Europe have 22% and 20% prevalence estimates in 2018 ((World Health Organization, 2021). Additionally, the reports showed the 5 countries with the highest rape rates which are Botswana (92.93), Lesotho (82.68), South Africa (72.10), Bermuda (67.29), and Sweden (63.54) (World Population Review, 2023).

According to statistics, the number of rape cases in Thailand went from 1,341 instances and 1,340 offenders in 2021 to 1,525 cases and 1,570 offenders in 2022, or a 13.815% increase in crime with a 17.16% increase in criminals (The Royal Thai Police, 2023). The Department of Corrections reports 9,058 male prisoners in 2019, 8,619 male prisoners in 2020, 5,009 male prisoners in 2021, and 4,907 male prisoners in 2022, all of whom have committed sexual offenses. However, there has been a slow decline in the number of sexual offenders incarcerated, particularly from 2021 to 2022, with a lowered rate of 2.04% (Department of Corrections, 2023).

Additionally, the Men and Women Progressive Movement Foundation's data revealed that alcohol use accounted for 24.75% of the causes of sexual abuse in 2021 (Women and Men Progressive Movement Foundation, 2023). Corresponding with the information from Pavena Foundation for Children and Women, the shocking fact shows that the statistics of complaints and requests for assistance from female victims of sexual abuse have been rising from 781 cases in 2021 to 944 cases in 2022, and the corresponding cause of this dreadful crime is alcohol delirium (Pavena Foundation for Children and Women, 2022). Therefore, alcohol may affect a person's physical and mental health and is undeniably a factor in sexual offense stimulation, showing that 36% of drinkers between 25 and 44 consumed the most alcohol daily in Thailand between 2001 and 2017 (The National Statistical Office, 2022).

Finding out how drunk offenders behave and how they commit acts of sexual assault is a fascinating topic to focus on in many studies. Many experts who researched alcoholic behavior claimed that men frequently serve as significant opponents in such situations. Women are said to be the victims the majority of the time, and the behavior of female victims is considered for their capacity to function when intoxicated (Abbey, 2011; Scott, 2014). However, nobody talks about the signal that the victims send to males, which is how they behave when intoxicated by alcohol and either remain in that condition or act sane. One option to look different is to consider the signal that female victims emit, and it is impossible to identify the precise issue of sexual abuse without trying to observe the debauched relationships of female victims.

By combining theory and actual data, the game theory model can examine how people behave strategically, especially in situations with incomplete information when one person has more information than the other. When female victims are more knowledgeable than male offenders in a signaling game known as evolutionary game theory, the victims decide to signal their intoxication, and the offenders must decide how to react to the uncertainty about their signal of intoxication and the likelihood of sexual harassment (Cho & Kreps, 2009). The signaling of females could be any messages that can stimulate males' awareness of the females' conditions that can be their true natures or false conditions with the environment of alcohol consumption, which states as an alcoholic illusion. This paper may offer the factors for female victims and male offenders linked with sexual abuse to satisfy the factors impacting sexual violence from drunken illusion. The interview component may include the survey of alcoholic illusion (SAI), which includes demographic questions, a daily drinking questionnaire, an alcohol purchase task, a choice of sexual partners, the degree of love and belonging from Maslow's hierarchy of needs, and physical appearance.

In an atmosphere where alcohol is readily available, such as in pubs and nightclubs, the study seeks to foster the behavior of both genders, and the man must react to the female's signaling by engaging in sexual abuse or refraining from harassment, depending on whether she is intoxicated or not. With the help of this research's contributions, victims and offenders under the influence of alcohol can inform prevention policies. It would be beneficial to apply the findings of this paper to further our understanding of the issues, risks, and motivations of both the perpetrator and the victim.

Research Objectives

1. Developing a game–theoretical model of sexual abuse and finding the empirical equilibrium and all possible outcomes

2 Determining factors affecting the behavior of female victims and male offenders associated with sexual harassment.

Research Scope

The population of interest for the research is to include all Thai females and males, regardless of ethnicity, who spend their spare time engaging in nighttime activities and drinking alcohol. Furthermore, heterosexuality, which has a sexual attraction to people of the opposite sex and gender ranging in age from 20 years to infinity, may be the only sexual orientation capable of sexual enjoyment. This experimental sample, calculated using the Taro Yamane Formula, comprises 200 females and 200 males who engage in nightlife activities and whose ages vary from 20 to infinite years, taken from a non–random convenience sample in Bangkok via the on–site and online survey from 2021 to 2022.

Literature Review

The most critical substance used by rapists to promote sexual violence is alcohol, which they either took prior to or during their sexual offense (Lemley et al., 2017; Slaughter, 2000; Walby & Allen, 2004). Sexual assault perpetration has been linked to several personality qualities, attitudes, and prior experiences. Men who are intoxicated are more likely to engage in physical abuse because they fail to show signs of hesitation and feel more powerful while acting violently (Abbey et al., 2003). According to a study titled Alcohol's Role in Sexual Violence Perpetrator: Theoretical Explanations, men who commit sexual assault while drinking tend to drink more than other men and have more substantial expectations about how alcohol will affect their sexual behavior (Abbey, 2011). A similar idea has been induced by the study entitled The Impact of Alcohol and Alcohol Expectancies on Male Perception of Female Sexual Arousal in a Date Rape Analog, which requested 160 male college students listen to an audiotape depicting a date rape scenario, which led to the inspiration for this concept. According to the findings, the inebriated

participants maintained their sexual desire for a more extended period than those in good mental health (Gross et al., 2001).

Due to cultural expectations that drunk men should be more violent than drunk women, alcohol use among women has a lower degree of violence (Scott, 2014). Inference under the Influence: The Impact of Alcohol and Inhibitory Conflict on Women's Sexual Decision Making, a study that attempted to show how women make decisions while under the influence of alcohol, demonstrated that alcohol has the most significant influence on choices where one's initial affective reaction is directly at odds with cognitively based inhibitory cues (Miller et al., 2012). Intoxicated women who were exposed to an audiotape of a date rape situation might be less reluctant to defend themselves in situations of sexual violence, according to the empirical study, Alcohol Consumption and Females' Recognition in Response to Date Rape Risk: The Role of Sex–Related Alcohol Expectancies. Although alcohol and expectancy were unrelated to risk perception, individuals who drank alcohol displayed significantly less resistance to role play refusal (Pumphrey–Gordon & Gross, 2007).

In order to better understand human behavior, behavioral game theory outlines how people act in strategic situations by fusing conventional theory with experimental data (Crawford, 2002). Incomplete information games are signaling games in which one player has more knowledge than the other. The more knowledgeable player then chooses to signal his appropriate type, leaving the less knowledgeable player to decide how to react to the uncertainty surrounding his type and the more knowledgeable player's signal (Cho & Kreps, 2009). Although signaling games are rarely used in adaptive theoretical modeling, there should be more effective studies to cover them. One of the few definitive studies that looked at how a leader's behavior might inform followers of important information and why it may improve contributions was Leading–by–Example and Signaling in Voluntary Contribution Games: An Experimental Study. The outcome demonstrated that the leader's decision enhanced contributions because followers are likely to follow their leaders' lead in sequential treatment in an asymmetric information environment (Potters et al., 2017).

As evidenced by this significant study, the signaling game also included sexual transmission as the significance of messages among partners. In their study, Social Context and the Spread of HIV: An evolutionary game–theoretic investigation on the Effects of Social Stigma on Epidemic Outcomes, Ferguson and Nguyen (2014) provided theoretical modeling of a signaling

game called Evolutionary game theory (EGT) to examine the social guilt of HIV transmission to their partners and the relationship's acceptance. Findings demonstrated that the social stigma associated with spreading diseases prevented truthful reporting and societal acceptability of romantic relationships (Ferguson & Nguyen, 2014). Another expert study that highlights the significance of signals in sexual contagion, as stated by Yoon and Tangtammaruk (2016), highlights the significance of risk awareness of receiving probabilities of a sexual partner's HIV infection when signaling is engaged. This study used signaling game theoretical modeling to concentrate on the risk perception of HIV transmission in the commercial sex market, including female, male, and transgender sex workers. The findings demonstrated that the danger of unprotected intercourse depends on incomplete knowledge of HIV transmission (Yoon & Tangtammaruk, 2016).

This session served as a reminder that drinking alcohol before or during sexual violence, whether committed by male offenders against women or by women as victims, is linked to such behavior. Alcohol intoxication affects men differently than women. By combining theory and actual data from games with complete and partial information, where one player has more information than the other, a game theory model can be used to understand how people react in strategic situations. The game theory, known as the signaling game, may explain how a more knowledgeable player indicates his actual type and a less informed player chooses how to respond to the signal, which can be applied to societal difficulties in current circumstances.

Research Methodology

This study, which was approved by Srinakharinwirot University's Human Research Ethics Committee (SWUEC–G–338/2564E), was carried out by collecting quantitative data from the Survey of Alcoholic Illusion (SAI), followed by qualitative data, including demographic inquiries, a daily drinking questionnaire, an alcohol purchase task, a choice of partners for sexual activity, the level of love and belonging from Maslow's hierarchy of needs, and physical appearance, to develop the game theoretical framework and determine factors affecting the behavior of female victims and male offenders associated with sexual harassment.

This experimental sample consists of 200 males and 200 females who participated in nightlife activities in nightclubs and bars in Bangkok from 2021 to 2022 using an on–site and online survey. Bangkok has been chosen as the study's central location because of the probability of target people engaging in the benchmark. The race is not restricted based on Thai nationality,

and the ages of all contestants span from 20 to infinity. The intoxicated state of the person is also not prohibited. Additionally, the individuals' sexual attraction must be based on heterosexuality, which differs depending on preferred sexual orientation and fashion.

Research Instruments

Game Theoretical Model

This paper extends Evolutionary Game Theory (EGT) following Ferguson and Nguyen (2014), presenting an evolutionary model of alcoholic illusion among participants, which can be associated with several assumptions. Firstly, nature decides whether each participant is an intoxicated female individual (Alcohol +), who can be defined as a person that consumes alcoholic beverages with blood alcohol more than 50 mg/dl or two bottles of beer (660 ml) following the blood alcohol concentration (BAC) limit for the regulation of drunk driving (Department of Mental Health, 2018). This event occurs with probability p. Moreover, the participant is a sober female individual (Alcohol–), who can be defined as a person that consumes free–alcohol beverages or consumes with blood alcohol is less than or equal to 50 mg/dl or two bottles of beer (660 ml), an event that occurs with probability 1 p. Then the female (player 1) can send signaling information about drunkenness from alcohol consumption (drink) or none of the tipsiness from alcohol utilization (not drinking). Consequently, each of them either enforces sexual abuse (E), which ranges from low to high intensity (sexual abuse in conversation to unwanted sexual activity), or does not encounter sexual abuse (N), as shown in Figure 1.

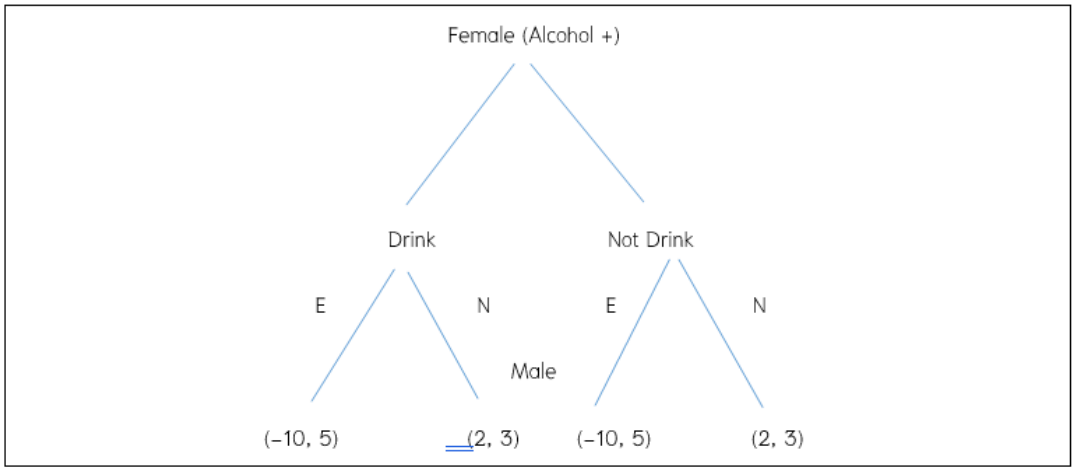

Figure 1. Alcoholic Consumption for the Female and the Male's Response

Whether the male (player 2) thinks the female is intoxicated or not (Drinks or Not drink), E will choose to experience sexual assault (E) since it has a higher payout than choosing not to engage in sexual abuse (N), with E being the predominant strategy. As shown in Figure 1, the female is in an intoxicated state (Alcohol+). Figure 2 illustrates the scenario of the female's sober status. (Alcohol), which uses a different tactic than the case of drunk status, male may decide (N) not to engage in sexual abuse while (Not Drink) he feels female is not inebriated, demonstrating the dominant strategy in N. Males will observe signals from females and choose the appropriate response because female states are frequently ambiguous.

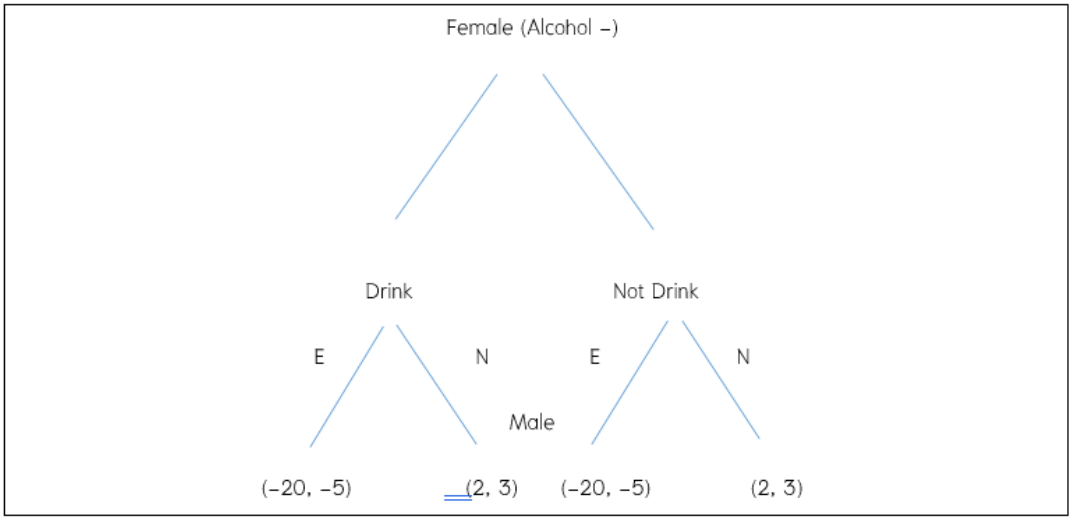

Figure 2. Non– Alcoholic Consumption for the Female and the Male's Response

The signaling model in a dynamic game takes into account two players: the female (player 1) who sends a message of "Drink and Not Drink," suggesting "drunkenness and temperance from alcohol consumption," and the male (player 2) who receives the message and responds in one of two ways, E or N, suggesting "sexual abuse and not involving in sexual activity," as shown in Figure 3. For the female, nature chooses between an inebriated (Alcohol+) or sober (Alcohol–) position, with Alcohol+ being determined at p and Alcohol– being determined at 1–p. Starting with the female's drunken status, E gives a payoff of –10, and N gives 2.

For the situation of sobriety, however, E declares a payout of –20 and N declares a payout of 2, respectively, sending the reliable message as her proper type declaring payoff t and the false message as her actual type subtracting payoff w. When the female is sober, E calculates

a payment of –5, and N calculates a payoff of 3 by deducting r for risk–lovers and adding s for risk–averseness. However, when the female is intoxicated, E calculates a payoff of –5, and N calculates a payoff of 3. Additionally, it is possible to factor in the cost of forgetting a sexual offender's face

Figure 3 shows the payoff of each case, which illustrates as follows: (1) intoxicated condition with signaling of drunkenness and the sexual abuse's response would be (–10+t, 5+); (2) intoxicated condition with signaling of drunkenness and the no sexual abuse's response would be (2+t, 3+s); (3) intoxicated condition with signaling of temperance and the sexual abuse's response would be (–10–w, 5–r+); (4) intoxicated condition with signaling of temperance and the no sexual abuse's response would be (2–w,3); (5) sane condition with signaling of drunkenness and the sexual abuse's response would be (–20–w,–5–); (6) sane condition with signaling of drunkenness and the no sexual abuse's response would be (2–w, 3+s); (7) sane condition with signaling of temperance and the sexual abuse's response would be (–20+t, –5–r–); and (8) intoxicated condition with signaling of temperance and the no sexual abuse's response would be (2+t,3).

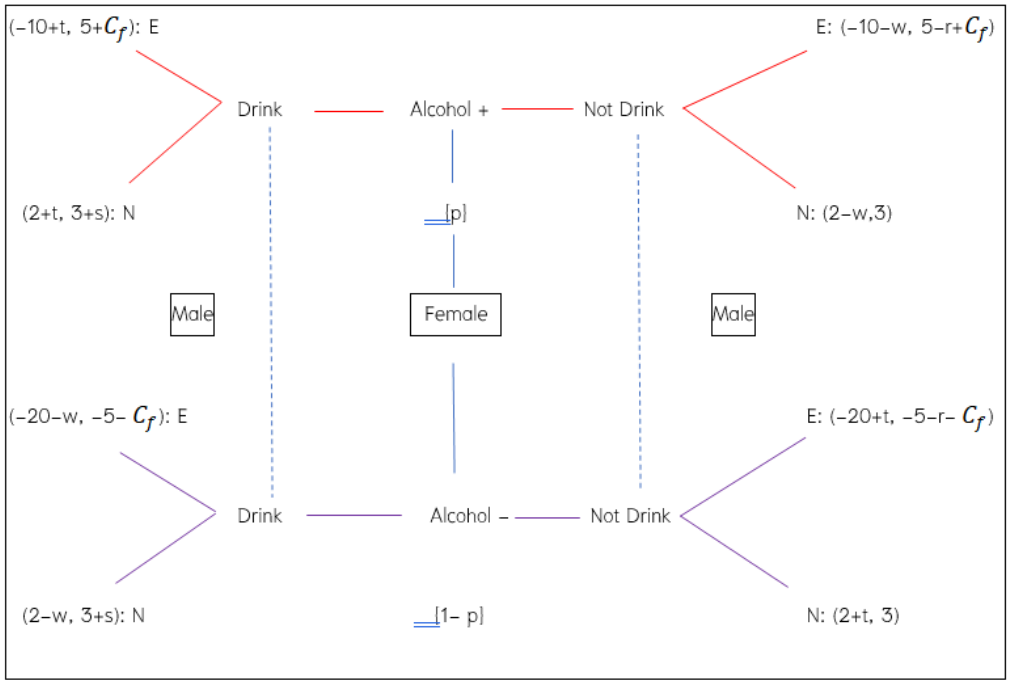

Figure 3. Signaling Game from Different Alcoholic Conditions

A joint probability is also known as the possibility of two or more events intersecting, which aids in calculating the likelihood of two occurrences happening simultaneously (Collegedunia Team, 2023). Three occurrences make up the probability in this game's theoretical model: the last, second, and ultimate events. We would then add up the probability of each circumstance. The joint probability, however, illustrates the intersection of the subsequent and former events in the scenario where the former event and the subsequent event are occurrences. For instance, estimating the likelihood that a female will be intoxicated when she sends a drunkenness signal will result in a male response of sexual harassment would yield the probability P (Alcohol +, Drink, E), which is composed of the likelihood that the female will be intoxicated condition, P(Alcohol+), multiplied by the likelihood that she will send a signal of tipsiness to the male, P(Drink), and multiplied by the likelihood that the male response will be sexual abuse, P(E).

Experimental Design

The survey of alcoholic illusion (SAI) has seven sections of content, including demographic questions, a daily drinking questionnaire, an amount of alcohol consumption, an alcohol purchase task, sexual partner preference, the degree of love and belonging from Maslow's hierarchy of needs, and physical appearance, which may be administered during the experiment. The participants in this study were 200 Thai females and 200 Thai males who participated in a non–random convenience sample in Bangkok between 2021 and 2022, with ages ranging from 20 to infinity. The data from this survey may be utilized as the foundational data for conducting logistic regression analysis; this method examines the association between a binary dependent variable and an independent variable (Leon, 1998).

Data Analysis

The model for logistic regression analysis is divided into two parts: the model for factors affecting the behavior of female victims, represented by $F = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \varepsilon_i$, and the model for factors affecting the behavior of male offenders, which is present as $M = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \varepsilon_i$. The variables in these models consist of: F is the female victims, whose 1 represents the female victims who send the signaling of drunkenness to male offenders and 0 represents female victims who send the signal of temperance to male offenders; M is the male offenders, whose 1 represents the male

offenders who receive the signaling from female victims and appoint the action of sexual abuse, and the male offenders who receive the signaling from female victims and appoint the alternative of not involving in sexual abuse.

There are seven independent variables is separated into two parts in this study which consist; x_1 is marriage status; x_2 is the daily drinking questionnaire, which asks participants to report their daily alcohol consumption during a typical daily week and their heaviest drinking week in the past three months; x_3 is the amount of consumption in alcohol beverages; x_4 is the alcohol purchase task, which tries to assess alcohol consumption across a range of increasing beverage prices which measures the willingness of alcohol price's spending; x_5 is sexual partner preference; x_6 is the level of love and belonging from Maslow's hierarchy of needs, which ask in the form of interpersonal relationships motivation's questionnaire; x_7 the beliefs about the personal physical appearance; and ε_i is error term. The outcomes of this regression analysis ought to be displayed during the subsequent session.

Results

Game Theoretical Model: The results of the study on the signaling model in a dynamic game take into account that; the female began the game either drinking alcohol or not, with the probability of alcohol consumption showing as p equal to 0.71 and the probability of not drinking alcohol or drinking less alcohol as stated by the legal regulation showing as 1–p equal to 0.29. After that, the women convey the phrase "Drink or Not Drink," suggesting "drunkenness and temperance from alcohol consumption."

The findings indicated that female alcohol–consuming subjects signaled drunkenness with a probability of 0.6 ($\mu+ = 0.60$) and clarity from alcohol intake with a chance of 0.6 ($1-\mu+ = 0.40$). As opposed to this, the female who had not consumed alcohol signaled drunkenness with a probability of 0.14 ($\mu- = 0.14$) and lucidity with a chance of 0.86 ($1-\mu- = 0.86$), respectively.

For the male, the response indicated a probability of 0.74 ($^{\varphi}+ = 0.74$) of sexual abuse occurring when a female displayed signs of intoxication and a probability of 0.26 ($1-^{\varphi}+ = 0.26$) if the male displayed signs of drunkenness without experiencing sexual abuse. However, the likelihood of females perpetrating sexual abuse in the case of lucidity's sign was 0.74 ($^{\varphi}- = 0.35$),

while the likelihood of males not experiencing sexual abuse in the case of obviousness's sign was 0.65 ($1-\varphi-$ = 0.65). Furthermore, the conditional probability by Bayes' theorem, which states the probability for the intersection of the subsequent and former events in the scenario, might be shown in Figure 4.

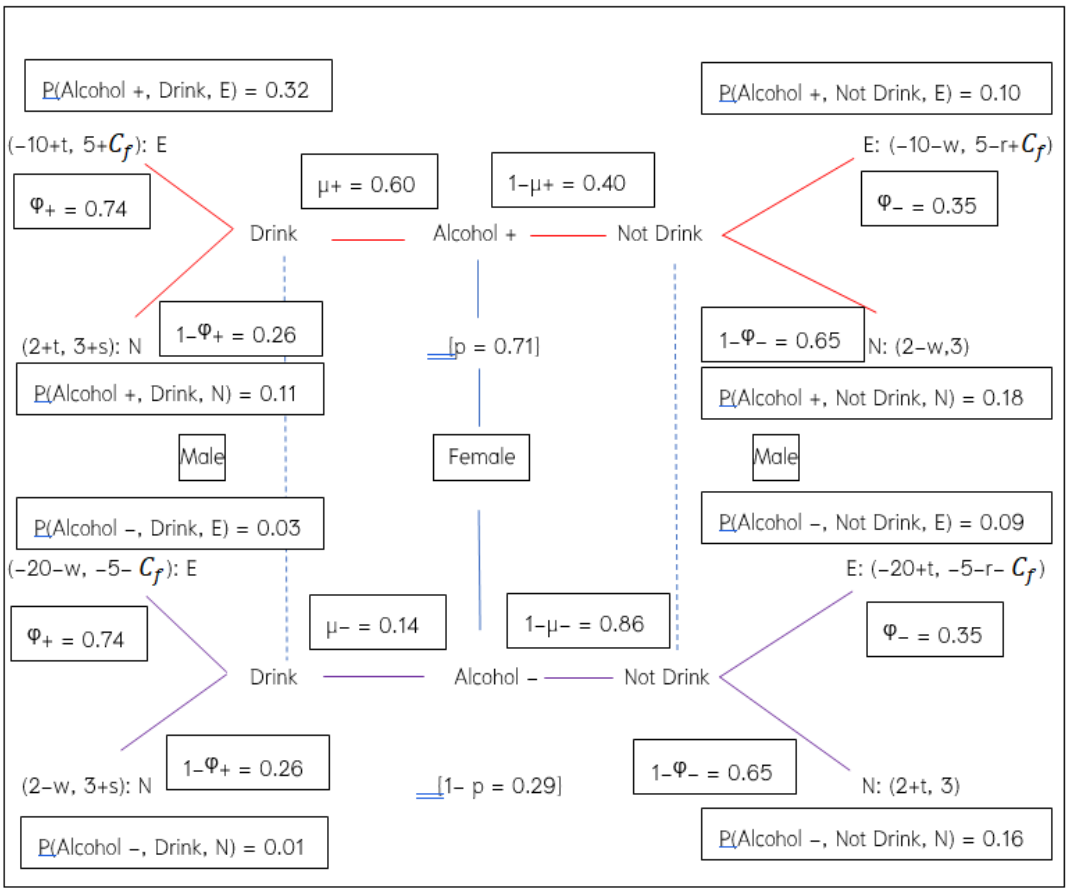

Figure 4. Signaling Game from Different Alcoholic Conditions with Completed Probability and Conditional Probability

Factors affecting the behavior of female victims and male offenders: The findings indicate that the demographic data of the participants' ages, which were 32.5% from 20 to 30 years old, 45.3% from 30 to 40 years old, and 22.3% from age 40 or over. Most participants are single, with a 67.5% marital status, a 65.8% bachelor's degree as their highest level of education, and a 58.8% average salary between 20,000 and 50,000 baht. Daily use of alcoholic beverages throughout the prescribed time frame, three months before asking participants this question, would indicate that 6.8% of the participants had not drunk alcohol for three months prior

to responding to the question, 22.3% might do so once a month, 27.3% might do so once a week, 28.7% might do so more than once a week, and 15% might do so every day.

The amount of alcohol consumption for each time could appear as follows: 2.5% of people did not consume any alcohol at all for each occasion, followed by 49.8% who drank one to three bottles of beer (or other alcoholic beverages that are similar to beer), 40.5% who drank four to six bottles of beer, and 7.2% who drank more than six bottles of beer. Except for the alcohol purchase task's group of three levels, 25–100 Baht, 125–200 Baht, and 225–300 Baht, which correlate higher than 0.75, all variables have reasonable correlations. To circumvent the multicollinearity issue, this study may choose the alcohol purchase task from level 2 (125–200 Baht).

The link between the dependent binary variable and the independent nominal variable has been examined using the Binary Logistic Regression Method. Classifying the dependent variable for female victims begins with 93 female victims who have signaled their intoxication to a man (F = 1) and 107 non–victims who have not (F = 0). Four variables are significant (less than 0.05) with Pseudo R–square of 0.717, including the frequency of alcohol consumption (significant at less than 0.01 and with an odd ratio of 2.899), sexual preference (significant at less than 0.27 and with an odd ratio of 1.215), level of love and belonging (significant at less than 0.01 and with an odd ratio of 4.292), and physical appearance (significance of less than 0.01 and an odd ratio of 4.351), as shown in Table 1.

Table 1 Variables in the Equation from Female Victims

Independent Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Constant	–14.770	2.268	42.400	1	<.001***	.000
Status	.328	.429	.584	1	.445	1.388
Frequency	1.064	.307	12.058	1	<.001***	2.899
AC	–.035	.530	.004	1	.947	.965
APT level	.086	.236	.132	1	.717	1.090
SP	.195	.088	4.905	1	.027**	1.215
Love & Belonging	1.457	.400	13.277	1	<.001***	4.292
Dress Opinion	1.470	.365	16.249	1	<.001***	4.351

****Statistically significant at the .001 level, and **statistically significant at the 0.05 level.*

For the male offenders, the classification of the dependent variable begins with 151 male offenders who have acted sexually abusively in response to the female's signal (M = 1) and 49 non–offenders (M = 0) who have not acted sexual abuse in response to the female's signal. As shown in Table 2, two variables; the frequency of alcohol consumption, with a significance of 0.003 and an odd ratio of 2.359, and the opinion of physical appearance, with a significance of less than 0.02 and an odd ratio of 1.816; are significant (less than 0.05) with a Pseudo R–square of 0.447.

Table 2 Variables in the Equation from Male Offenders

Independent Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Constant	–3.602	1.362	7.000	1	.008***	.027
Status	–.240	.368	.427	1	.513	.786
Frequency	.858	.288	8.895	1	.003***	2.359
Alcoholic Consumption	.565	.400	1.996	1	.158	1.759
APT level	.238	.206	1.340	1	.247	1.269
Sexual Preference	–.062	.056	1.236	1	.266	.940
Love & Belonging	–.379	.351	1.165	1	.280	.685
Dress Opinion	.596	.256	5.423	1	.020***	1.816

****Statistically significant at the .001 level, and **statistically significant at the 0.05 level.*

Discussion

For any action that both females and males choose to take, the probability gathered from the survey may be used in the model of a signaling game. Female participants may choose to consume alcohol with a probability (p) of 0.71 instead of 0.29 for non–alcohol consumption, starting with an equal probability between alcohol consumption and non–alcohol consumption. After that, the female who drinks may then choose to indicate her intoxication to the male with a probability of (+) of 0.60, while the female who does not drink may choose to remain sober with a probability of (1– –) of 0.86. Additionally, the male may choose the course of sexual harassment when the female delivers the signal of intoxication with a probability (+) of 0.74 and refrain from accepting responsibility for any sexual abuse when the female sends the signal of sobriety with a

probability (1––) of 0.65. The process of finding probability has been similar to that of Ferguson and Nguyen (2014) and Yoon and Tangtammaruk (2016).

In the theoretical model of this game, the joint probability of the alcoholic illusion consists of three occurrences; the last, second, and final events may be computed as the state of the research instrument. With a joint probability of P(Alcohol +, Drink, E) of 0.32, the action of an intoxicated female that signals intoxication to a male sexual abuser has the highest possible joint probability. The lowest joint probability, on the other hand, might be the sober condition for the female who signals to be tipsy to the man who is not behaving sexually abusive with a joint probability, P(Alcohol –, Drink, E), of 0.01. If we consider the alcohol condition for females, the high and low joint probabilities could be classified as follows:(1) For the intoxicated condition (Alcohol+), the highest joint probability might be P(Alcohol +, Drink, E) as stated, and the lowest joint probability for intoxicated circumstance could be the action of the intoxicated female and send the signaling of sober to the male sexual abuser with a joint probability, P(Alcohol +, Not Drink, E), of 0.10; and (2) For sane condition (Alcohol–), the highest joint probability might be the sober condition for the female who sends the signaling for distinctness to the male sexual abuser with joint probability, P(Alcohol –, Not Drink, E), of 0.09, and the lowest joint probability for lucid circumstance might be the sober condition for the female who sends the signaling for tipsiness to the male who not behaving sexual abuse with joint probability, P(Alcohol –, Drink, N), of 0.01.

The causes of sexual abuse may be different for males and females. The opinion of physical appearance with the odd ratio of 4.351, which is the notion that wearing a revealing dress code increases the likelihood of becoming a victim later than a non–victim about 4.351 times, should have the most significant impact on females when considering these independent variables (Farris et al., 2006; Lennon et al., 2017). The second most crucial component may be a female's sense of love and belonging, with 4.292 times the likelihood of being a victim instead of not becoming one. Females are more likely than males to desire someone to care for them since they might not have the confidence to do so due to this aspect. According to Lemley et al. (2017), that is the main factor that causes a male to develop a sexual urge that involves anticipating seeing a beautiful person 1.215 times. Females are now in a dangerous scenario where they must spend time in nightlife settings with drunk individuals because of the additional factor of 2.899 times for the victim over the non–victim, which shows how frequently alcohol is used.

Nevertheless, the frequency of alcohol consumption and the perception of physical attractiveness are the two main determinants influencing the behavior of male offenders. Similar to how alcohol use frequency is the most significant factor in sexual abuse behavior, it is also highly significant. How frequently alcoholic beverages are consumed may have an impact on whether someone becomes an offender later than a non–offender by 2.359 times, and this variable is applicable for both males and females (Abbey et al., 2003; Lemley et al., 2017; MacDonald et al., 2000). Relevant to the studies of Farris et al. (2006) and Lennon et al. (2017), the 1.816 times to be the offender instead of the non–offender opinion on physical attractiveness is based on the idea that a woman's desire for a romantic relationship should be evident by her revealing her clothing and that it will be easy to be intimate. When important variables for males and females are compared, it becomes clear that the significant variables for females, sex preference and levels of love and belonging, are not significant for males. The difference in sensitivity between males and females should probably be the primary factor, given that it is inherent to each gender. in contrast to a female, who reacts strongly to sentiments of love and belonging and sexual inclination, a male may not exhibit high sensitivity (Fischer et al., 2018; Schmitt et al., 2009). It is puzzling that alcohol intake may not be substantial for males and females, and future research should concentrate on why this is the case.

Conclusion

This study can confirm the hypothesis that a female's drunkenness, which is an intoxicated condition from alcohol consumption, has been sent to a male who is interested based on her sexual preference with the confirmation of 85 participants or a probability of 0.60 in the intoxicated condition, which indicates that the influence of alcohol is significant in arousing this action. With the participation of 147 individuals, or a likelihood of 0.74, the male sexual abuser also appears when females confront their signal of inebriation. The research findings may also indicate that the action of the intoxicated female, who signals her intoxication to the male sexual abuser with a joint probability of 0.32, could have the highest joint probability; the action of a female under the obviousness who signals her tipsiness to the male sexual abuser who is not behaving sexually could have the lowest joint probability of 0.01. Additionally, if the payoffs from a person's alternative have gotten poorer or have an enormous selection cost compared to other

options, it should differ from the scenario above. The frequency of alcohol consumption is 2.90 times higher for victims than for non–victims; sexual preference is 1.215 times higher for victims than for non–victims; the degree of love and belonging is 4.292 times higher for the victim; and the perception of physical appearance, which is 4.351 times higher for victims compared to non–victims, could all affect sexual abuse differently for female victims and male offenders. On the other hand, the frequency of alcohol use (2.359 times for offenders over non–offenders) and the perception of one's physical appearance (1.816 times for offenders over non–offenders) may have influenced sexual abuse for male offenders.

Suggestion

There are some suggestions from this study as follows:

1. Policy and Implementation

Observing the survey's findings, it can be said that the likelihood of a female participant reporting being intoxicated to a male and receiving a sexual abuse response has the highest probability, with a combined probability of 0.32, compared to other scenarios. In addition, 64% of female participants said they would not get along if the male did anything other than touch their hands. The warning foundation of the risk and consequences of sexual assault should be the direct basis for the policy, with female students and female employees being the two targets. Since schools and universities are the most accessible places to learn and maybe the right age to do so, the government should focus heavily on the detrimental impacts of sexual harassment, which would establish a sense of loss aversion, a condition in which people experience a natural or future loss as mentally or emotionally more terrible than an analogous gain (Bonau, 2017). Additionally, it should be a top priority to educate female employees about the consequences of sexual harassment in order to close any legal gaps in this matter.

Moreover, the government should use nudge, an intervention with a behavioral focus that predictably modifies behavior, typically by altering how options are presented, as a policy to gently steer individuals toward desirable behavior. There are various types of nudges, such as alerts, signals, data sharing, complexity reduction, and automated enrollment (Murayama et al., 2023). Nudges do not restrict possibilities or materially alter social motives; they only retain the liberty of option. The government should implement regulations to regulate nudges to remind

people of their importance, diminishing the desire to have someone on their side and enhancing the confidence of living alone because people may be status quo in their beliefs and it is difficult to change their minds outright. This policy should also include the notification of a sexual assault penalty, the extenuating frequency of alcohol consumption, and the supersession of the dress code's attitude, through which the message should be effectively delivered to people. As a result, the nudge might be used on both males and females who exhibit certain target behaviors because it was created from the perspective of the target population. These regulations should be implemented alongside fantastic marketing campaigns and modern digital. Furthermore, the government should encourage the law related to sexual abuse to be vigorously commenced, and the law must be clear of penalties. It demonstrates that a related statute, the Act Amending Criminal Code, B.E. 2558 (articles 367–398), may not clearly define sexual abuse (Niyomrattana, 2018). There are laws against severe sexual offenses like rape and indecent acts, but there is no clear definition of what constitutes a mild sexual offense. Everyone must adhere to the law without exception, without bias or unfairness. The institution of a nation should be essential to empowering regulation and law, which can increase community safety, in order to promote this policy.

Additionally, the reward for being a good Samaritan who keeps an eye out for and reports any sexual abuse needs to be great, and the punishment for such behavior must be harsher. Additionally, the proprietor of bars and clubs may be absolved and held accountable for permitting the condition of sexual assault. These could have a direct impact on male offenders who are eager to breach the law and regulations.

2. Future Research

This study only considers the game theoretical model of sexual abuse and factors influencing the conduct of perpetrators and victims of sexual harassment based on heterosexuality. In order to analyze the factors affecting sexual abuse and the policies intended to address this problem in the community, future research should focus on LGBTQIA+ people, who also play a significant role in society today. The study also needs to examine a variety of points of view and compare them with heterosexuality.

New Knowledge

The findings of this study suggest that female victims may end up being precipitative victims, victims who intentionally divert attention from or convey a strong signal to the attacker (Francis & Wilcox, 2010). The preventative measure against sexual assault might focus on both males and females. It should employ two different sorts of policies: direct policy, which consists of effective sexual abuse education and empowering sexual assault laws, and indirect policy, which is a policy based on behavioral economics like nudge, loss aversion, and status quo. The findings also point to two variables that impact both male offenders and female victims: frequency of alcohol usage and attitude toward dress code. As a result, these two factors could be considered when implementing direct and indirect policies with behavioral or psychological consequences.

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