

JEL Classification: L83, D81, M1, I00.

<https://doi.org/10.35945/gb.2022.13.024>

DECISION-MAKING PROCESS DURING ONLINE GAMBLING: AN INTEGRATION OF GLOBAL APPROACHES AND OTHER FACTORS (A CASE OF GEORGIA)

ANA ELIZAROVA

PhD Student

Caucasus University, Georgia

ana.elizarova@gmail.com

Abstract. Since the dawn of the computer and internet era, many online users have exploded, and more people are using the Internet to spend their money online. Georgia is well-known and well-positioned as a regional gambling hotspot. Gambling is a strategically vital and financially lucrative industry for the country. Gambling business plays a crucial role in the Georgian economy by contributing to its budget revenues via income generated from licenses and spending of foreign tourists and increasing employment by hiring a steadily increased number of employees in the field. Gambling is a steadily growing industry with an increasing number of players raises several behavioral questions on why so many people decide to play online and the main factors that determine and affect their choices. Even though online gambling is a strategically important and financially attractive field for Georgia, it is, at the same time, a source of many social problems such as gambling addiction, the involvement of adults, and financial problems. Gamblers maintain behavioral habits by attempting to deny concerns and a false sense of control. As a result, gambling becomes the most important activity in a person's life. Its nature is so broad that it complicates the process and makes it difficult for gamblers to recover. Therefore, this case requires a thorough study from various perspectives. These aspects lack scientific studies of the local market or other related research papers that add novelty to the Georgian online gambling segment. This research examines several traditional approaches to gambling behavior, their proclivity for problem gambling, and the primary elements that influence it.

KEYWORDS: PROBLEM GAMBLING, DECISION-MAKING PROCESS, RISKY BEHAVIOR, PREFERENCE, APPROACHES TO GAMBLING.

For citation: Elizarova, A. (2022). Decision-Making Process during Online Gambling: an Integration of Global Approaches and Other Factors (A Case of Georgia). *Globalization and Business*. 13, 154-159. <https://doi.org/10.35945/gb.2022.13.024>

INTRODUCTION

Gambling is a kind of entertainment in which customers wager a valuable item, usually a quantity of money, on the possibility of a reward. Gambling has existed as a source of entertainment for millennia and throughout civilizations. Players gamble because it is a pleasurable hobby activity (Wood, 2008). However, because most gamblers know the term "the house always wins," it is also an excellent example of hazardous decisions and illogical conduct. In economic terms, this refers to the fact that gambling has a negative anticipated value. The gambling odds are set up so that the casino/bookmaker makes money at the player's expense. The proclivity for such bets begs what drives gamblers' decision-making and how a different stimulus may influence that process. In the instance of Georgia, this study aims to offer an overview of alternative approaches to a gambling habit and to describe the essential components in the decision-making process. We will start by going through some standard approaches to gambling decision-making.

The Psychobiological Approach

One of the broadest approaches is gambling behavior from the clinical perspective. Gambling is a form of recreational behavior that, in some cases, can spiral out of control and transform into pathological. American Psychiatric Association (APA, 2013) and the World Health Organization (WHO, 1992) accepted pathological gambling as the only behavioral addiction recognized as a mental disorder. The psychobiological approach studies group differences between problem gamblers and healthy control groups on a measure of brain chemistry and function (Clark, 2010). Researchers divided studies of brain functions into two categories. The first category assesses the function of neurotransmitters. Second, splits brain activity into neuropsychological studies, which evaluate brain function indirectly using tasks validated in individuals with brain injury, and functional studies, which measure brain activity directly during task performance, usually using functional magnetic resonance imaging (fMRI). Studies can measure brain activity at rest or in response to

psychological tasks by tapping specific stimuli (e.g., cues for reward) or processes (e.g., decision-making). The blood-oxygen-level-dependent (BOLD) signal depicts a level of brain activity on fMRI.

The Cognitive Approach

We should also consider the importance of the cognitive approach in gambling and the psychobiological processes stated. According to the cognitive formulation of gambling, problem gamblers primarily continue to play because their incorrect beliefs induce them to overestimate their chances of winning (Ladouceur, 2003).

This distortion also highlights several factors, such as gamblers' perceptions of skill, unpredictability, and chance during the game. Several articles described false beliefs (Raylu, 2004). Applying the strategies above in psychotherapy for compulsive gambling is effective (Fortune, 2012).

Illusion of Control

Mentioned distortion can foster different game features, such as involvement of choice, open competition, and instrumental action. The most classic distortion is the "illusion of control," when a gambler tries to use skills and confuses a game of chance with a game of skill (Langer, 1975). Ladouceur & Walker's studies referred to some games, such as blackjack, where skill involvement is required to win or continue to play, which raises a belief that skill is excessively influential. A recent study found that problem gamblers overestimate their control of positive outcomes more than non-gamblers (Orgaz, 2013).

One of the most common methods used as evidence of the cognitive approach is the "think aloud" procedure. It was first developed in 1989 year by Gaboury & Ladouceur. Facilitators ask gamblers to verbalize thoughts while gambling in a realistic environment, such as a casino. The critical factor is speaking continuously and trying not to control or filter speech during gambling. Gamblers' comments are recorded and categorized by the moderator into two groups – accurate (e.g., It is a program/machine we have no control over; it is all luck) and erroneous (I have mastered it; I am getting good at these games). Participants fill out a questionnaire before and after a gambling session. Results showed that 70-80% of all statements were wrong, even when chance determines reward and gamblers are aware of it.

Different studies suggest that cognitive distortions are higher among problem gamblers and justify play (Walker, 1992); (Griffiths, 1994); (Baboushkin, 2007); (Joukhador, 2003). Baboushkin reported that probable pathological gamblers had more erroneous thoughts during gambling on blackjack, slot machines, and roulette rather than non-regular players. Griffiths also compared regular and non-regular gamblers and confirmed similar results on slot machines.

Another example of personal control is a lucky ticket in

the lottery when gamblers expect their favorite numbers to win. Observations showed that gamblers are more confident when arranging the gambling process themselves. Participants bought a lottery ticket, and then the moderator asked them to buy back their cards. Persons who could choose their tickets were offered more money (\$9) than people who took it from a random selection (\$2). Individuals who had chosen their tickets were more likely to reject the offer with a higher chance of winning (Langer, 1975). The experiment shows how personal control affects the decision-making process in gambling and how a person perceives an opportunity to win when they arrange their gambling.

Similar findings have been described in roulette when players throw the dice ("shooting the dice"). Players displayed superstitious behavior, such as blowing on the dice using more force when throwing a high number (Henslin, 1967). The effect of personal control makes players accept more risky choices and place higher bets when they have an opportunity to throw the ball by themselves, rather than when a croupier is involved (Ladouceur, 1987). Consider that it was an illusory control that did not affect results in all examples. In further studies, (Petry, 2002) created an effective cognitive therapy to correct erroneous beliefs among problem gamblers.

Gambler's Fallacy

Studies showed that both occasional and problem gamblers tend to develop faulty beliefs. Understanding the mechanism psychologically, we should discuss at least two reasons for erroneous beliefs.

First, different features of games foster these erroneous beliefs. Second, classic studies show that humans are generally poor at judging probabilities and randomness (Tversky, 1971); (Gigerenzer, 2002). The problem is that gamblers fail to appreciate the independence of turns and use small samples as representatives (Ayton, 2004). Poor abilities of random processing sequences lead to the "Gamblers Fallacy." Gamblers' Fallacy is gamblers' belief that the expectancy of a particular event becomes less likely after a long series of the same event; therefore, the win is "due" after a series of losses (Cowan, 1969). Players are trying to create a strategy based on the previous outcome. The studies found that gamblers were more likely to bet on black (75%) if the last result was red (50%) while playing roulette. The winning and losses series might be considered a "streak." Works showed that gamblers perceive winning or losing "streaks" on the third consecutive trial (Carlson, 2007).

Similar findings of "Gamblers Fallacy" report difficulties caused by various features of gambling games. Structural characteristics promote gambling and evoke cognitive distortions. For example, the slot machine wins, followed by flashing lights and specific sounds. Mentioned method manipulates the player's perception, helps them easily recall win rather than losses, and may bias the decision to continue to play by distorting their memory of past outcomes.

The Near-Miss Effect

The "near-miss effect" arises when a poor outcome is close to a considerable gain; the "near-miss effect" arises. Several studies looked into the impact of near-miss outcomes on gambling habits. Despite their objective equivalent as no wins, Clark's investigations revealed that near-miss outcomes were related to increased willingness to gamble than full-miss outcomes (Clark, 2009). They displayed two cherries on the slot machine task, with the third cherry appearing later. The impact mentioned above occurs in all forms of gambling and is sometimes misinterpreted as an indication of mastery of skills/games. An illusion of control causes the near-miss effect, and as a result, gamblers believe they are winning rather than losing (Griffiths, 1991).

Behavioral Approach

In general, decision-making is an adaptive behavior that considers both internal and external variables and leads to selecting a course of action over others, often competing and options. Different fields studied it, ranging from mathematics, economics, and psychology to neuroscience. Discussions around this field yielded a new description of decision-making processes. Reinforcement-guided decision-making models are based on economic and reinforcement learning theories and maximize benefits over a specific period (Khani, 2016). Several neurotransmitter systems and brain areas are studied to understand the decision-related process better. We will use these models during the cross-talks among different approaches to process decision-related information in gambling. Another insight given from the behavioral economics review is the role of Prospect theory (PT), which describes a range of standard behavior and deviation from normative expected value theory (Kahneman, 2013). One of the main points in PT is "loss aversion".

Observations showed that humans and other species are more sensitive to losses than gains. This might lead to a "loss chasing" behavior in problem gamblers (Takahashi, 2013). Prospect theory also shows nonlinearity in probability. It overestimates small probabilities and underestimates significant chances. Behaviorally, the overestimation might result in a risky decision and increase the attractiveness of the gamble. Distortions correlated with dopamine in the ventral striatum and dorsolateral prefrontal cortex (Takahashi, 2010). Different methods study brain activity and gamblers' perception of the decision-making process.

Research Methodology

This study explored the main approaches to gambling behavior and their tendency to problem gambling. Additionally, and of importance to the present investigation, we asked respondents about their preferences for online gambling, and they were able to explain their reasons for it.

Generally, gambling is reviewed as risky behavior and recognized as an addiction. Gamblers avoid talking about gambling issues as they know social attitudes toward the sector is very negative and in some cases recognized as a pathological and is considered in a correlation with other addictions. On the second hand some gamblers even do not recognize that they belong to that problem group. Considering mentioned factors, we decided to conduct a qualitative research methodology using the focus groups method. Because special atmosphere is created during research process and the appropriate group of people with similar interests help gamblers feel comfortable and speak openly about their interests, preferences and motivations. The facilitator's guide and questionnaire covered all interesting issues, such as preferences, behavior, and decision-making process.

A qualitative approach is primarily exploratory research and is used to uncover underlying causes, opinions, and motivations. It gives information about the situation or aids in the development of ideas. Qualitative research is used to uncover trends in thought and beliefs and dive deeper into the issue. The qualitative data collection method used during our research is semi-structured interview techniques. The sample size is typically small, with 40 respondents, due to the facts listed above. Recruiting for Focus Groups was problematic due to the specific target group, and social stigma toward gamblers made the selection process even harder. We selected respondents for interviews from representative groups and divided them by age categories, and the main criteria were active playing status. Focus groups consisted of 5 main clusters: 1) 21-30 2)31-40 3) 41-50 4) 51-60 5) +61. The groups were mixed; respondents were users of different slot clubs, casinos, and sports betting sites. They have been active players for many years and have played many times during the past month. Participants were males, and all respondents were offered a gift valued at \$20 US. The research guide consisted of a manner that helped us make a holistic market overview and define players' preferences. We used the semi-structured method during focus groups, one of the most popular instruments, which allows us to be more flexible with respondents and ask additional questions, making the interview more in-depth. Qualitative research yields descriptive rather than predictive outcomes. Furthermore, we are not able to generalize results on population.

All information collected during the research follows ethical issues, including the right to privacy and autonomy. We explained to respondents that no correct and incorrect answers existed; they could discuss gambling issues without barriers and leave research at any time. We informed participants about the audio recording that we needed for analyses. We treat all provided confidential information with respect, and we follow guidelines on protecting sensitive data, which means that no harm can come to participants or the researcher. Collected data is protected and will not transfer to a third party. We aim to avoid bias in any aspect of our research, including design, data analysis, and interpretation.

Table 1 indicates the main categorization of respondents

Group	Number	Area
21-30	8	Adjara
31-40	8	Europa
41-50	8	Betlive
51-60	8	Crystal
+60	8	Croco

Data Analyses

For data analysis, we used Nvivo 12 program. Before data analyses, we collected all audio records transformed into the transcript. The transcript is a detailed reflection of audio records that includes examples and additional information discussed during focus groups. We used transcripts in Nvivo. The first step was making codes/nodes of our information. The separated clusters of our information allowed us to use the structural coding method (Saldana, 2021). Codes were grouped hierarchically and analyzed in different ways. For example, we used content visualization by selecting a mind map and word cloud.

Research Results

The research investigated the main reasons for gambling in Georgia. We started Focus Group (FG) discussions with the association method. FG participants mentioned that they mostly gamble with a feeling of HOPE to win or return their money. The most important fact is that gamblers perceive the gambling company as a "working place" where they can earn some money to pay a debt or earn some cash for a particular day, but not as an entertainment house.

The second reason is previous experience, which is one of the primary motivators. Gamblers mentioned that the previous experience relates to a particular "house," machine, time, situation, and other factors.

"At night, money is already accumulated, and approximately at 2:00-3:00 AM, it is easier to win."
(Male, 41-50).

"I choose according to previous experience, where I have experience of more wins."
(Male, 21-30).

Another critical factor in Internet gambling is associability. In many cases, the Internet makes the activity more asocial (although some online gambling activities like online poker have chat room facilities allowing some social interaction). Gambling removes a psychological and social "safety net" from gamblers as there are no friends or acquaintances to help monitor their gambling. However, at the same time, it is also an ability to make new friends in their cohort/cluster and keep social interaction while still being at home.

"You can gamble while driving to work."
Male (21-30).

Gamblers mentioned interests as one of the reasons. Different marketing offers with attractive information about new products, bonuses, and jackpots supported with full-scale marketing activities stimulate interest in existing and potential gamblers. It is important to note that information about the field provided by companies is an essential factor in evoking interest in Gamblers. The large scale of games offered to gamblers helps them learn strategies and practice different tactics. Most gambling sites have demo versions of new games. Such options allow them to try their luck with a small stake size and get used to a new product. Gamblers' interest intensifies with cross-offered products. The main reason is that most gambling companies are successfully using Key Account Management System. Among the most reliable communication channels, they named: Online Platforms, Short Message Service, Television, Outdoor Banners, Direct Calls, and Word of Mouth. Word of mouth is one of the most effective methods in that field. Gamblers always used examples of their neighbors, friends, familiar people, and others.

"I Can not gamble until I lose all money because I am waiting for JACKPOT."
(Male, 41-50)

"Once I won 1000 GEL, the next day they gave me a bonus card, in a few days I became a VIP client. I was addicted to many things, but the hardest is to give up on gambling."
(Male, +51)

One of the factors gamblers mentioned is the role of friends. Some cases showed that gamblers were enthusiastic about playing because their friends and family do it. Gambling is seen as an avoidance strategy when under stress. The findings demonstrated the best way to escape from problems and relieve anxiety, boredom, and depression. Negative mood states facilitate many gamblers' need to modify their mood by playing again. In the beginning, the gambler has his first experience with the game, which stimulates positive emotions and feelings. This stage is followed by chasing, a period when gamblers increase their stake to fulfill their losses. Different cognitive and personal changes usually follow impaired control. Besides the most common range of negative consequences, health problems, changes in mood, problems at home/work/school, and legal problems also sometimes occur.

"When I lose, I am very aggressive, and I do not need any connection with people."
(Male, 41-50).

"When you lose, you need some time to calm down and then continue playing."
(Male, 31-40).

Another factor mentioned during discussions reviewed gambling as a relaxation process and enjoyable pastime activity in a familiar atmosphere, where they feel comfortable and confident. Gamblers think that they can control the proper operation of gambling when someone wins and someone loses.

"In most cases, I am gambling for just having fun; if I have 20-30 GEL, I start gambling with no hope to win; I realize that I

will not win much money to change my life, but when I am in a process for me it is tough to stop, I become like a zombie." (Male, 31-40).

CONCLUSION AND FUTURE DIRECTIONS

The results of different researches showed many factors affecting gamblers' behavior. It is the only behavioral addiction recognized as a mental disorder from a modern perspective. That is why it is dangerous to treat gambling as homogenous activity. The review of studies showed that some people spend so much time gambling online that they become addicted. This addiction is a significant social problem and can lead to severe consequences (Ahn, 2010).

Different cognitive and personal changes usually follow impaired control. Besides the most common range of negative consequences, health problems, changes in mood, problems at home/work/school, and legal problems also sometimes occur. Life changes leave gamblers isolated or direct them to suicide. They try to deny issues and have a false feeling of control, maintaining gamblers' behavioral patterns. Thus, some gamblers manage to cope with several adverse problems. In most cases, gambling becomes the most critical activity in an individual's life. The nature of gambling is so comprehensive that it complicates the process and hampers them from recovering from it. Even with recovery, in most cases, gamblers will experience a few relapses in their lifetime after periods of abstinence. Addictive behavior such as pathological gambling has complex etiology and is not fully understood. There are direct and indirect factors associated with developing and maintaining disorder.

A case in Georgia showed several factors affecting the decision-making process, such as hope to win; a safe place; marketing offers; the role of friends/family; technics. The research showed the difference in gamblers' attitudes toward the field in Georgia and other countries, as Georgian gamblers do not consider the field as a method of entertainment. Therefore future research should enroll a quantitative method as qualitative research is descriptive rather than predictive and is not generalized on population.

Moreover, future research should be conducted into the competition between the Internet and land-based venues, and additional studies should be conducted by considering

demographical features. Moreover, future research should study socio-economic and demographic characteristics as there are limited resources in the field. Despite the actuality of the sector, there is a lack of scientific studies or other related research papers about the Georgian gambling segment. Hope more researchers will be motivated to follow my research and publish similar studies that will help increase social awareness related to this sector and better analyze and prevent problems caused by the risky decision-making processes.

To prevent problem gambling, the role of government and private business is crucial. Government should carry out educational and policy initiatives. Revenues that government gets from licenses and taxes from the industry should reinvest in the same field by conducting particular programs to decrease the risk of pathological gambling. Moreover, the business should also be interested in providing responsible gambling to the target audience as their incomes depend on society's welfare. Gambling is a common problem in different countries. Its reasons and tendency need to be studied to identify critical issues and find effective ways to decrease the number of players and maximize economic welfare.

Limitations

The current research has some limitations, and we believe it is vital to mention them not only to ensure that our research is visible to the critical observer but also to provide any extra lessons we can consider for future research. The study's most significant flaw is that the sample size is small due to the problematic group, which is negatively recognized in society. It is impossible to determine how the sample reflects the larger population, as Internet gamblers are a large community. As a result, while we believe the study has promise in providing insight into the factors that affect Internet gamblers' decision-making process and our findings on Internet gamblers' preferences, it is impossible to extrapolate demographic and game-play characteristics to a larger population.

Another limitation is related to the pitfall was related to survey methodology. The survey used for the present study collected only qualitative data and required a more thorough study.

REFERENCES:

- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders*.
- Ayton, P., & Fischer, I. (2004). The Hot Hand Fallacy and the Gambler's Fallacy: Two Faces of Subjective Randomness? *Memory & Cognition*. 32 (8), 1369-1378.
- Cowan, J. L. (1969). The Gambler's Fallacy. *Philosophy and Phenomenological Research*. 30 (2), 238-251.
- Carlson, K. A., & Shu, S. B. (2007). The Rule of Three: How the Third Event Signals the Emergence of a Streak. *Organizational Behavior and Human Decision Processes*. 104 (1), 113-121.
- Clark, L., Lawrence, A. J., Astley-Jones, F., & Gray, N. (2009). Gambling Near-misses Enhance Motivation to Gamble and Recruit Win-Related Brain Circuitry. *Neuron*. 61(3), 481-490.
- Clark, L. (2010). Decision-making during Gambling: an Integration of Cognitive and Psychobiological Approaches. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 365 (1538), 319-330.

- Derevensky, J. L., Gupta, R., & Baboushkin, H. R. (2007). Underlying Cognitions in Children's Gambling Behavior: Can They Be Modified? *International Gambling Studies*. 7 (3), 281-298.
- Fortune, E. E., & Goodie, A. S. (2012). Cognitive Distortions as a Component and Treatment Focus of Pathological Gambling: a Review. *Psychology of Addictive Behaviors*. 26 (2), 298.
- Griffiths, M. (1991). Psychobiology of the Near-miss in Fruit Machine Gambling. *The Journal of Psychology*. 125 (3), 347-357.
- Griffiths, M. D. (1994). The Role of Cognitive Bias and Skill in Fruit Machine Gambling. *British Journal of Psychology*. 85 (3), 351-369.
- Gigerenzer, G. (2003). *Reckoning with Risk: Learning to Live with Uncertainty*. Penguin UK.
- Henslin, J. M. (1967). Craps and Magic. *American Journal of Sociology*. 73 (3), 316-330.
- Joukhador, J., Maccallum, F., & Blaszczyński, A. (2003). Differences in Cognitive Distortions between Problem and Social Gamblers. *Psychological Reports*. 92 (3), 1203-1214.
- Kahneman, D., & Tversky, A. (2013). Prospect Theory: An Analysis of Decision under Risk. In *Handbook of the Fundamentals of Financial Decision Making: Part I*. (99-127).
- Khani, A., & Rainer, G. (2016). Neural and Neurochemical Basis of Reinforcement-guided Decision Making. *Journal of Neurophysiology*. 116 (2), 724-741.
- Lachance, S., Doucet, C., & Leblond, J. (2003). Group Therapy for Pathological Gamblers: A Cognitive Approach. *Behaviour Research and Therapy*. 41 (5), 587-596.
- Langer, E. J. (1975). The Illusion of Control. *Journal of personality and social psychology*. 32(2), 311.
- Ladouceur, R., & Mayrand, M. (1987). The Level of Involvement and the Timing of Betting in Roulette. *The Journal of Psychology*. 121 (2), 169-176.
- Orgaz, C., Estévez, A., & Matute, H. (2013). Pathological Gamblers Are More Vulnerable to the Illusion of Control in a Standard Associative Learning Task. *Frontiers in psychology*. 4, 306.
- Petry, N. M., & Roll, J. M. (2001, July). A Behavioral Approach to Understanding and Treating Pathological Gambling. In *Seminars in Clinical Neuropsychiatry*. 6 (3), 177-183.
- Park, B. W., & Ahn, J. H. (2010). Policy Analysis for Online Game Addiction Problems. *System Dynamics Review*. 26 (2), 117-138.
- Raylu, N., & Oei, T. P. (2004). The Gambling Related Cognitions Scale (GRCS): Development, Confirmatory Factor Validation and Psychometric Properties. *Addiction*. 99 (6), 757-769.
- Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers*. Sage.
- Tversky, A., & Kahneman, D. (1971). Belief in the Law of Small Numbers. *Psychological Bulletin*. 76 (2), 105.
- Takahashi, H., Fujie, S., Camerer, C., Arakawa, R., Takano, H., Kodaka, F., & Suhara, T. (2013). Norepinephrine Is the Brain Associated with Aversion to Financial Loss. *Molecular Psychiatry*. 18 (1), 3-4.
- Takahashi, H., Matsui, H., Camerer, C., Takano, H., Kodaka, F., Ideno, T., & Suhara, T. (2010). Dopamine D1 Receptors and Non-linear Probability Weighting in Risky Choice. *Journal of Neuroscience*. 30 (49), 16567-16572.
- Walker, M. B. (1992). Irrational Thinking among Slot Machine Players. *Journal of Gambling Studies*. 8 (3), 245-261.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioral disorders: clinical descriptions and diagnostic guidelines*. World Health Organization.
- Wood, R. T., & Griffiths, M. D. (2008). Why Swedish People Play Online Poker and Factors that Can Increase or Decrease Trust in Poker Websites: A qualitative Investigation. *Journal of Gambling Issues*. (21), 80-97.

This research [PHDF-21-3954] has been supported by Shota Rustaveli National Science Foundation of Georgia (SRNSFG).