

A phenomenological qualitative study based on the multi-theory model (MTM) of health behavior change to identify factors and ways to design interventions for quitting gambling among older adults

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Abstract

Introduction: This qualitative, phenomenological study examines gambling cessation behavior using the multi-theory model (MTM) of behavior change and its initiation and sustenance stages. Directed content analysis categorizes and interprets participants' narratives to reveal the complex relationships that affect gambling behavior.

Methods: Ten participants were engaged in in-depth interviews to gain comprehensive insights into their gambling experiences until data saturation occurred. For analysis, the study utilized directed content analysis, guided by the MTM, to discern patterns, motivations, and factors influencing gambling behavior.

Results: The results described the initiation phase, unraveling the complexities surrounding participants' initial engagement with gambling activities. Interview narratives were coded into categories related to social, psychological, and environmental factors. Similarly, the sustenance phase is investigated, shedding light on the mechanisms that contribute to the continuation of gambling quitting behaviors over time. A total of 56 major codes were consolidated into 3 major and 14 subcategories for the directed content analysis. NVivo software was utilized to develop coding hierarchies and patterns of code dimensions. Our research adhered to and is reported on the criteria of the COnsolidated Criteria for REporting Qualitative research (COREQ).

Discussion: The findings of this research contribute valuable insights to the field of gambling studies, offering a nuanced perspective on the initiation and sustenance of gambling behaviors. The multi-theory approach also gives a comprehensive view of the dynamic interaction of cognitive, emotional, and behavioral components in gambling habit modification. These findings help guide focused treatments, prevention, and support for those struggling with gambling disorders.

Take-home message: The goal of this study is to verify various techniques and processes based on solid theoretical frameworks, such as MTM, to address gambling addiction and related hazardous behaviors in older persons. The study's findings provide the groundwork for various individual-level interventions, behavioral curricula, and techniques to practice gambling cessation.

Key words: Behavior change; directed content analysis; gambling; multi-theory model; risk-taking.

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INTRODUCTION

Gambling in a casino is a whole new experience for a lot of retirees. However, casino gaming can become disordered, problematic, and/or addictive for certain retirees, especially those susceptible to depression due to the changes and losses that might occur with aging [1]. More and more seniors are spending their free time at the nation's expanding number of casinos. As more and more kinds of gaming become widely available, the likelihood that older persons would gamble and develop a gambling addiction increases [2]. Problem gambling among older adults can lead to debt, depression, relationship problems with their families and friends, and even suicide [3]. Older adults are more prone to develop problem gambling due to loneliness, social isolation, and marital status [4].

Elderly individuals typically have little financial resources. Older adults exhibit a diminished capacity for decision-making compared to younger ones, particularly when it comes to selecting between different amounts and probabilities of rewards [5]. Consequently, losses are more probable and have a more detrimental effect on this age group. Due to the increasing number of opportunities and convenient accessibility of internet gambling, older persons are more prone to engaging in home-based online gambling behaviors [6]. More theory-driven qualitative research is vital to investigate the intricate dynamics among the elderly, casino games played by them, the contexts in which gambling behavior occurs, and the course of changes across their lifetime [7].

Between 0.4% and 1.9% of older persons satisfy the criteria for pathological gambling (PG), while 1.3% to 3.6% are problem gamblers [8]. There are potential links between at-risk/problem/pathological gambling (ARPG) and the occurrence of certain medical disorders in older persons and it is linked to increased occurrences of arteriosclerosis and cardiovascular problems in the future, regardless of socio-demographic variables, mental illness, drug usage, and body mass index [9]. Some studies explained that elderly individuals with a history of persistent gambling problems could have a higher susceptibility to angina and arthritis compared to elderly individuals aged 60+ and who have never gambled in their entire lives [7,10]. The studies concluded that gambling may have existed before and may have a role in the emergence of health ailments. Another psychosocial factor is stress, which can be caused by gambling victories and defeats and concomitantly might worsen cardiovascular diseases, including angina and tachycardia [11]. Older adults who demonstrate risky or problematic levels of gambling may be at particular risk for the onset of other conditions associated with lifestyle behaviors due to increased intake of alcohol and tobacco, which may elevate the risk of hypertension, cardiovascular events, liver disease, and cirrhosis [12]. The distinctive environmental

setting of casino gambling may lead to the emergence of detrimental impacts on older individuals' health, particularly those associated with smoking and being exposed to secondhand smoke, leading to high risk to malignancies and cardiovascular disease, and association of increased smoking on gambling days alternating with problem-gambling severity associated with increased levels of smoking [13,14].

Elderly individuals constitute a distinct demographic group, not only concerning the effects of gambling disorders but also in terms of the underlying reasons and thought processes that drive their gambling activities [15]. Individuals with a problem gambling disorder have a higher probability of seeking medical attention in emergency rooms, which is indicative of their deteriorating physical well-being and disordered lifestyles exhibiting several similarities to alcoholism and drug addiction [16].

Our qualitative research in the field of behavioral gerontology focuses on studying decision-making processes in aged adults. This research has the potential to provide valuable insights for developing behavioral interventions and self-management techniques in the elderly to promote health, maintain their psychosocial integrity, and target public policies aimed at gambling disorders and prevention measures. In addition to that, data about behavioral interventions aimed at problematic gambling prevention in the elderly is limited, while these behavioral interventions in the elderly can be a significant factor in initiating or maintaining the change in behavior over time.

Theoretical framework – Multi-theory model (MTM) of behavior change

This study utilized the multi-theory model (MTM) exclusively for health education, health promotion, and long-term behavior change; it is relevant across cultures and effective at the individual, group, and community levels [17]. The social and environmental aspects of the individuals and their communities may influence individuals' lived experiences, which can be examined by a detailed qualitative methodology of a phenomenological approach.

The use of MTM has consistently shown to have high predictive power across multiple health-related behaviors. MTM is effective at the individual, group, and community levels. Initiating and maintaining healthy behavior changes are the focus of the MTM's two key components of behavior change and execution (Figure 1). The initiation of behavior change comprises three fundamental elements. First is a participatory dialogue, which is described as the difference between the advantages and disadvantages of engaging in an activity (e.g., the initiation of stopping gambling). A second concept, behavioral confidence, is based on an individual's level of conviction that they will follow through with a specified health behavior change (such as refraining from gambling). The third component is a shift in the physical environment, which probes the question of whether and to what extent a shift in behavior might be prompted by changes in the accessibility and availability of physical elements.

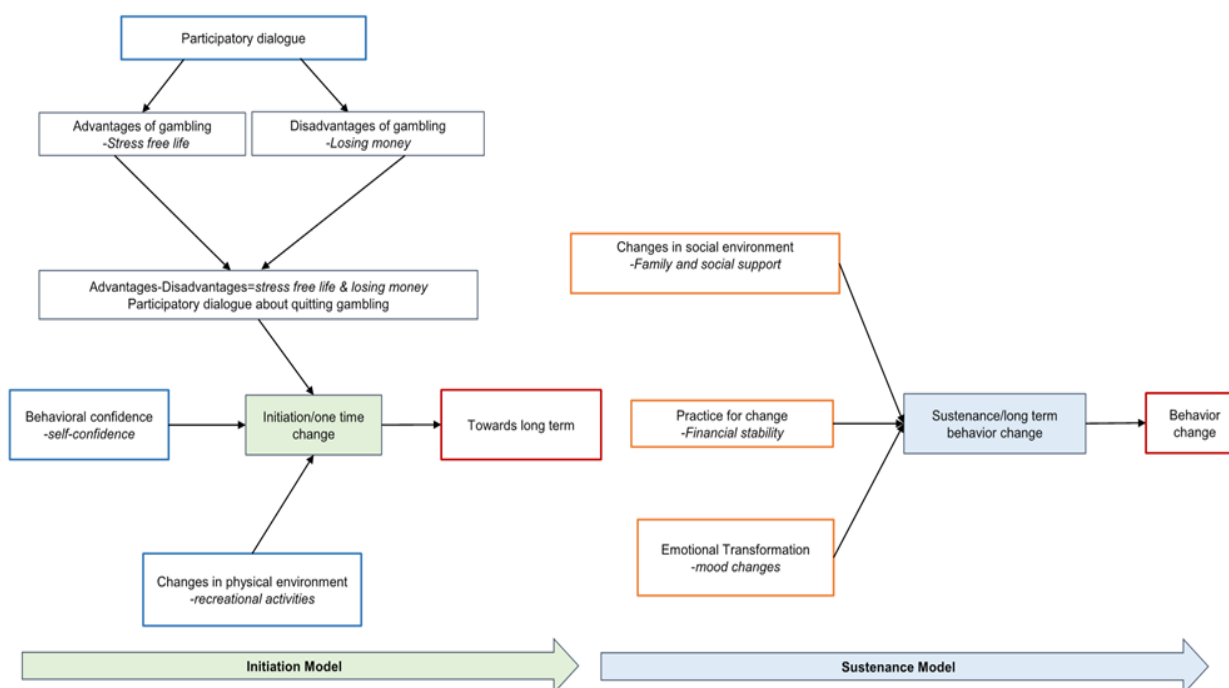


Figure 1. Multi-theory model of behavior change.

Sustenance of behavior involves emotional transformation, practice for change, and social environment. Emotional transformation changes people's emotions to influence behavior. Practice for change emphasizes individuals' serious analysis of a specific behavior change and iterative methods to overcome hurdles and sustain a behavior change. Social support from the environment helps sustain healthy behavior, according to the social environment construct. Using MTM framework, the goal of this study was to discover characteristics that predict the risk of gambling initiation, maintenance, and intervention design among older adults [18].

Our directed content analysis has discovered the initial factors for quitting gambling among older adults. In addition, the results will help us build health promotion interventions to help gamblers quit their activity. Our study also explored the factors related to (1) initiating quitting gambling among older adults at casinos, (2) sustaining quitting gambling among older adults at casinos, and (3) health promotion interventions designed to quit gambling among older adults at casinos.

METHODS

Study design and procedure

The study was carried out in a southwestern state in the United States of America, spanning from November 2022 to March 2023. The study utilized the qualitative-directed content analysis methodology, specifically utilizing the multi-theory model of behavioral change (MTM) for the in-depth, structured interviews conducted at local casinos often visited by older adults. Qualitative content analysis may be categorized as either deductive or inductive, and as such, our research study utilized a deductive approach for this fourth-generation theoretical framework. This study adhered to the COnsolidated criteria for REporting Qualitative research (COREQ, Additional File 1) [19].

Study participants and sampling

Recruitment was facilitated as a purposive sampling carried out near gambling venues such as lottery outlets and in-person interviews with the gamblers near casinos. The inclusion criteria are older adults over 60 years of age, must be gambling for at least 2 years (regular gambler), be able to communicate in English, and must provide informed consent. A snowball sampling technique has been applied by asking participants to suggest anyone who would fit the study's inclusion criteria. The sampling was carried out until data saturation occurred.

Study instruments

Participants were instructed to contemplate the nature of their gambling experiences and were asked in-depth questions within a structured interview lasting for about 45-50 minutes. They were asked to respond to the questions, (1) *When you tried quitting gambling, what were some advantages that you thought?* (2) *What are some disadvantages of quitting gambling?* (3) *When you tried quitting gambling, how did you build your confidence?* (4) *What are some changes in your physical environment that you used when you quit gambling?* (5) *What were some emotions that you had when you tried quitting gambling?* (6) *When you tried quitting gambling, what approaches did you employ to practice quitting your gambling behavior?* (7) *What kind of social support did you have when you tried quitting gambling?* (8) *What are some components you would like to see in programs that help older adults quit gambling?* (9) *What should be the modality of delivery of such programs (e.g., face-to-face, online, etc.)?* and (10) *Anything else you would like to share?*

The two outcome variables of the study are (1) the likelihood of an individual initiating abstinence from gambling and (2) the likelihood of an individual completely abstaining from gambling.

Data analysis

The 10 interviews were captured using a digital recorder until data saturation occurred and then transcribed word for word. Two researchers conducted the first coding autonomously. Code categories were created for the categories that are formed from the constructs of the MTM. In our analysis, the key categories investigated were the initiation and sustenance of the gambling quitting

behavioral constructs. The process of coding the transcripts began, and subsequently, additional categories and sub-categories were established based on similarities and dissimilarities. The data analysis was conducted using the NVivo 14 software (Lumivero, USA, 2023 [20]).

Directed Content Analysis

Data analysis was performed concurrently with data collection through directed qualitative content analysis. A qualitative-directed content analysis approach has three main phases, preparation, organization, and reporting. The preparation phase selected the unit of analysis containing the whole interview. The organizing phase included coding, creating categories, and abstraction, and in the reporting phase, appendices and tables were used to demonstrate the links between the data and the results [21,22]. The prior theory provided forecasts on the associations between variables, hence aiding in the establishment of the original coding scheme or connections between codes [23]. The objective of using a directed approach to content analysis is to substantiate or expand upon a theoretical framework or theory in a conceptual manner. Prior theory or study may assist in narrowing down the research issue. It potentially provides forecasts on the variables of interest or the associations between variables, assisting in establishing the initial coding system or connections between codes. This phenomenon is often known as *deductive category application* [24]. While the users' text may be incomplete and does not provide any information, we, therefore, applied the alternative approach in directed content analysis with prompt coding using pre-established codes on the generated percepts of the MTM constructs. Non-contextual data are thereafter found and evaluated to ascertain whether they pertain to a novel category, or a subcategory of an established code aligned with MTM constructs. Other factors could be assumptions or previous studies on phenomena that are lacking in completeness and might benefit from further description or analyses of the resemblances and concepts in a new context [25]. In our study, we utilized the multi-theory model (MTM) of behavior change, which has been tested in many other settings [26-29]. Therefore, a deductive content analysis was operationalized for the structural and directed exploration of the participants' interviews based on previous knowledge of MTM constructs.

Trustworthiness and Credibility

The data were meticulously coded and classified by researchers with expertise in addiction studies, theory of health behavior change, complementary and alternative medicine, and qualitative analysis. A thorough examination of interview contents was undertaken for the validity of analyses. Three doctoral-level graduate assistants, who were successfully trained in qualitative research methods and gained experience as research assistants in prior projects, were responsible for managing the raw data. The graduate assistant retrieved the interview files containing the compiled transcripts of the participants. The graduate assistant extracted the contents of the file and organized the interview transcripts into Word documents. The participants' interview files were rendered de-identified and displayed only a coded number that was used to represent each participant. For example, we used complex coded phrases for response questions in interviews as P01065/a-3/ReQ1 would represent a participant 10, 65 years, female, African American, response to question 1.

Ethical aspects

On November 18, 2022, the study received an exemption from the institutional review board of the university (Protocol# 1418598-10). The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of UNIVERSITY OF NEVADA, LAS VEGAS (protocol code 1418598-1 approved on November 18, 2022). Participants provided their consent by voluntarily agreeing to participate in the study. No personal data such as name or email address were collected.

RESULTS

Participants' characteristics, including the socio-demographic status data, ages, and race/ethnicity, have been described in Table 1. Approximately 40% of the participants were females, 50% are Black or African American, and the mean age was 65 years for both genders.

Table 1. Selected characteristics of participants (*n*=10).

Variables	N	%
Age (years)		
Range	63-72	
Mean(SD)	65.60(2.60)	
Race/Ethnicity n(%)		
Asian	1	10%
Black/AA	5	50%
Hispanic/Latinx	1	10%
White	3	30%
Gender n(%)		
Female	4	40%
Male	6	60%

A few examples of directed content analysis and interview responses aligned with the constructs of the multi-theory model (MTM) behavior change have been elaborated in Table 2. These few excerpts, along with other detailed subcategories, have been explained under the complete analyses of the initiation, sustenance, and gambling quitting programs.

Table 2. Examples of content analysis aligning the constructs of the Multi-theory Model (MTM) of behavior change.

Model of Behavior Change	Constructs of MTM	Quotes from Participants’ Interviews
Initiation	Advantages	<p>“Besides saving money, some of the advantages on top of my mind were- the ability to enjoy real pleasures of life stress-free, enhanced capacity to handle stress, gain more confidence in decision making which in turn will help me to have more self-respect.”</p> <p>“I can finally see my money, and I can start handling my business the way I need to. Because I have a salon that needs good supervision, you know. Also, I can spend more time at home with my children.”</p>
	Disadvantages	<p>“I am a sports gambler, and it is the only form of entertainment in my life. I barely have friends and come here to make friends aside from playing. After I quit, I felt empty and had no form of entertainment. I also feel so bored. I also felt stressed and anxious; I couldn't just quit doing what I love and not feel stressed or sad about it. It was hard to let go.”</p>
	Behavioral Confidence	<p>“I got help from my family; they helped me a lot by distracting me from gambling. I started spending more time with my family and built up my confidence. I also called the helpline, and I received support from them.”</p> <p>“I tried to change my outlook, gave myself a fashion makeover. I went to church on a regular basis, which increased my willpower. I started rewarding myself whenever I refused an urge to go to the casino by giving me a small treat.”</p>

Model of Behavior Change	Constructs of MTM	Quotes from Participants' Interviews
	Changes in the Physical Environment	<p>"I was motivated to give up gambling by having a familial setting that was supportive and by avoiding people who supported gambling. I also began engaging in physically demanding sports, which proved to be very beneficial in terms of assisting me in overcoming the want to gamble."</p> <p>"I stopped smoking & tried to avoid the people whom I know to be regular gamblers. Changing my company of friends, I started to go to the gym instead of going around the casino or bar."</p> <p>"You know I built a slogan to help me stay away from the casinos "AVOID THE SCAREHOUSE". I decided to start a garden. I spent a lot of time gardening. Gardening is good. You spend a lot of time thinking about how to grow new plants and the vegetables and you don't even have time to think about any casino."</p>
Sustenance	Emotional Transformation	<p>"Being able to save money & properly investing it is a major advantage. The stress & depression that come with losing are also gone."</p> <p>"Anxious about what sort of support shall I get from my family and friends regarding quitting. On the other hand, I had the satisfaction of being able to save resources, time."</p>
	Practice for Change	<p>"I stopped following the bookies and discussions that ensued to betting and made up my mind that betting was doing more harm to me than good. The gain I made was not worth the time and investment and hence decided to not engage in it any longer."</p>
	Changes in the Social Environment	<p>"I did not have access to any social support, my decision to quit was quite enough for me. To some extent I think religious sermons on the need to not engage in gambling also contribute. I am religious and the religious tag of wrong associated with gambling also weighed on me. So, I saw the need to avoid gambling to fulfil my religious responsibilities."</p>

Out of 10 interviews, 133 primary codes were thoroughly extracted and meticulously assessed on the framework of MTM constructs. Then, the final codes were reduced to 56 codes. In the final stage, the main codes were subcategorized under the 7 main categories of the MTM constructs, i.e., perceived advantages and disadvantages (participatory dialogue), behavioral confidence, changes in the physical environment, emotional transformation, practice for change, and changes in the social environment; and the 7 categories for gambling quitting programs and preferred program modalities. This befitted well within the two main phases of the MTM, i.e., *initiation* and *sustenance* and one main category of gambling quitting programs leading to 3 main categories and 14 sub-categories. This is represented as the hierarchy of codes, which describes the greater set of dimensions represented by the frequent mentioning of such words.

A. Model of Behavior Change-Initiation

A.1 Advantages

The main categories of the advantages mentioned by the participants were business, accomplished (life), family spending, hobbies, positive vibes, self-assurance, productive activities, mental well-being, and self-control. Participants mentioned financial savings, increased resilience in dealing with stress, and more confidence in decision-making, leading to a higher level of self-respect.

A.1.1 Productive activities

Participants mentioned the businesses and market-valued activities about investments and encompassing any activity that creates a valuable item or service, even if unpaid.

“Also save time which I can invest in doing productive activities like learning a new skill which will enhance my career development, spend more time with family and friends. Redirecting my effort and energy into something productive for myself and my community”. (P0166/a-3/ReQ1)

Another mentioned,

“My thoughts were now I can finally see my money and I can start handling my business the way I need to. Because I have a salon that needs good supervision, you know. Also, I can spend more time at home with my children”. (P0266/a-3/ReQ1)

A.1.2 Positive vibes

Participants mentioned positive vibes, suggesting and emitting nice emotional and mental feelings, which signified that there is a strong resonance between the two and would generate comparable emotional or cognitive oscillations, eliminating negative states.

“I feel more healthy and positive, which is a sign of success. It gives off a vibe of positivity. It has been a while since I actually felt that. I feel less anxious, you know? Truth be told, it is very nerve-wrecking behind those slot machines”. (P0366/b-6/ReQ1)

A.1.3 Mental health

Considering mental health, a participant mentioned gambling that may lead to addiction and engagement in obsessive spending and investment of time.

“Counting my loses and profits I do admit that I made profits, but value wise, it was just a little price compared to the investment of time, and mental involvement and every other thing combined. Upon some consideration and pondering, I came to the conclusion that it was best to quit”. (P01063/b-3/ReQ1)

A.2 Disadvantages

The participants identified many obstacles in quitting gambling, such as lack of thrill, loss of gambling strategies, feeling less rewarded, emptiness, loss of friends, and self-harm.

A.2.1 Lack of thrill

Participants mentioned that boredom is one effect that is escalated, and it is crucial if they resist the temptation to gamble.

“If I am unable to shake the desire to gamble, I can distract myself with other things for a little while, including participating in activities like extreme sports. Both the act of gambling and the results of gambling provide a great deal of thrill”. (P0465/b-6/ReQ2)

A.2.2 Loss of gambling strategies

The disadvantages were also linked to the sense of achievement that outweighed the cash benefits. Gambling activities introduced people with the same interests, shared gambling tactics, engaged in conversations on personal topics, and exchanged a multitude of other information.

“Gambling, on a lighter note, got me close to a couple of new people who were also gamblers; in time, these people became like family. They taught strategies, we discussed other personal matters and shared much more together”. (P01063/b-3/ReQ2)

A.2.3 Feeling less rewarded

Participants explained that gambling was an enjoyable means of occupying their time, sometimes leading to monetary profits. Upon discovering their victory, they were immensely elated and enthusiastic.

“Not winning, also not being able to go out and gamble and having 50/50 chances of me winning more and more money. Having that gambling rush, feeling like nothing else matters around you but winning and hitting that jackpot, I would miss that feeling. Also, my gambling buddies, they have been there for me when I needed them”. (P0266/a-3/ReQ2)

A.3 Behavioral confidence

Acquiring knowledge and creating self-efficacy within oneself needs incremental steps, making adjustments, and recognizing diverse sources of self-assurance. The primary and critical determinant factor as a determinant to quit gambling in older adults was their own determination and confidence in their capacity to execute this behavior. Participants explained that their confidence built when they adopted the breakdown of betting cycle, makeover to a stylish lifestyle, learned new skills, offering more prayers, and attention to selfcare.

A.3.1 Breakdown of betting cycle

Participants explained that a betting strategy is referred to as a betting system, which is a methodical approach to gambling with the goal of generating a financial gain. However, this is unattainable in pure games of chance with fixed odds and control of bookies, similar to a perpetual motion machine.

“I stopped following the book masters, those who made the breakdown of the potential wins and what have you. I stopped depositing money into my betting coupons, that way I didn’t see the need to exhaust the money in the account through gambling. In a nutshell, I delete my betting accounts and that was the major step”. (P01063/b-3/ReQ3)

A.3.2 Makeover to a stylish lifestyle

A stylish makeover empowers individuals and inspires them to envision their great qualities. Consequently, it is anticipated that individuals will encounter fewer challenges in exhibiting a cheerful demeanor and self-assurance.

“I tried to change my outlook, gave myself a fashion makeover. I went to church on a regular basis, which increased my willpower. I started rewarding myself whenever I refused an urge to go to the casino by giving me a small treat”. (P0664/a-3/ReQ3)

A.3.3 Offering more prayers

Religious tradition and regular attendance at religious services have been mentioned by some participants to decrease the probability of engaging in casino gambling and increase behavioral confidence.

“I also started praying more and seeking God more when I quit gambling. I found myself enjoying nature more, going on walks and appreciating the smell of just smelling the fresh air”. (P0266/a-3/ReQ3)

A.4 Changes in the physical environment

The participants mentioned different aspects of the physical environment built on home and family ties, news and books, vacations, avoiding people and places, mindset about conversations, and indulging in physically demanding sports.

A.4.1 Avoiding people and places

“I stopped smoking cigarettes because it reminded me of the environment of been at the casino smoking back-to-back while gambling. Sometimes winning and sometimes losing. I stopped going to certain places and I tried to avoid certain people as much as possible. It was hard and as you can see; I could not keep the energy for a year. I fell right back into it because I have known these people for a long time, and I couldn’t just leave them”. (P0266/a-3/ReQ4)

Other participants mentioned change in places by adopting constructive hobbies like gardening or going to gym and watching television shows.

“You know I built a slogan to help me stay away from the casinos “AVOID THE SCAREHOUSE”. I decided to start a garden. I spent a lot of time gardening. Gardening is good. You spend a lot of time thinking about how to grow new plants and vegetables and you don’t even have time to think about any casino”. (P0872/b-2/ReQ4)

A.4.2 Physically demanding sports

People also mentioned physically demanding sports which helped them alleviate their desire to gamble.

"I was motivated to give up gambling by having a familial setting that was supportive and by avoiding people who supported gambling. I also began engaging in physically demanding sports, which proved to be very beneficial in terms of assisting me in overcoming the want to gamble". (P0465/b-6/ReQ4)

A.4.3 Mindset about conversations

Very few participants mentioned the change in mindset and change of topic in conversations that may lead to a renewed or conversed desire. They explained that by engaging in open dialogue on novel gambling ideas and differing viewpoints may enhance their motivation and comprehension of such a subject. Conversations have the potential to alter their perspectives or confirm their initial positions on gambling quitting or continuation.

"Changes adopted included the mindset, consciously refusing to engage in conversations about betting, I did not walk into casinos, and I decided to watch games with a mindset of recreation purely".

(P01063/b-3/ReQ4)

A. Model of Behavior Change-Sustenance

B.1 Emotional transformation

The primary category of emotional change is directed toward the sensation of pleasantness and channeling negative emotions into constructive causes. Participants reflected that quitting gambling for good or periodically is associated with a craving for gambling. They also mentioned some support group help, feelings of loss, need for relaxation techniques, satisfaction with saving resources, quitting self-doubt, and weighing on the benefits and drawbacks of quitting or continuing gambling.

B.1.1 Craving for gambling

The participants provided an increasing amount of personal information on the significance and influence of their personal desire on gambling behaviors which made it difficult for them to quit.

"When I attempted to stop gambling, I experienced anxiety and worry. I tried to keep away from gambling, but I grew to crave it. It became harder to avoid gambling as life grew less enjoyable. However, I now have more family time, which is a good adjustment that has helped me unwind and is a sign of achievement".

(P0365/b-6/ReQ5)

Another participant mentioned the outcome decisions,

"When I made the decision to stop gambling, I was overwhelmed with tension and anxiety. While I was actively trying to avoid gambling, I began to get cravings for it. The life that I led grew less fascinating, and it was difficult to refrain from gambling". (P0465/b-6/ReQ5)

B.1.2 Satisfaction to save resources

Participants expressed doubtfulness if they would succumb to another addiction, such as alcohol or recreational drugs, but showed gratification of conserving resources and time. They were also content with an emotional focus on self-improvement and overcoming this harmful habit.

"Not being able to increase the money easily doing something I enjoy is what I missed. But being able to save money and properly investing is a major advantage. The stress and depression that come with losing are also gone". (P0664/a-3/ReQ5)

Another participant explained,

"Not sure if I'll get hooked on another substance like alcohol or recreational drugs, worried about what kind of help my family and friends will give me when I quit, keen to save money, time, and get more out of life, eager to move toward self-help and give up a bad habit". (P0763/a-3/ReQ5)

B.2 Practice for change

The primary focus of the transformation category is active reflection, and reflective behavior may lead to continued dedication to the application of the practice. The distinction between the two processes lies in the need for a deliberate and conscientious endeavor to contemplate events and cultivate profound insights to adopt a certain behavior. Participants mentioned a lot of modalities that may lead to practices for a short-term or long-term change, e.g., Gamblers Anonymous, hobbies, self-care in the gym, and vacations.

B.2.1 Gamblers Anonymous

"I also attended the Gamblers Anonymous meeting in ---. These gatherings are very helpful. I also talked to my support person whom I found at Gamblers Anonymous and go for fishing". (P0565/b-6/ReQ6)

Another mentioned the local meetings with Gamblers Anonymous

I've only been able to stop gambling for about three months. Spending time with my family and watching TV helped me become more involved with them. The time I used to spend in casinos has been replaced by these activities. I also attended the Gamblers Anonymous meeting in ----. These gatherings are very helpful. (P0365/b-6/ReQ6)

B.2.2 Vacations

Participants mentioned some organized vacations for a few weeks with their families, including a variety of scheduled activities during the stay. They sought to consistently secure the constant presence of their family members to prevent themselves from succumbing to addiction once again.

"I arranged a two-week vacation with my family to do lots of activities, and I made sure my family was around me to avoid this addiction". (P0763/a-3/ReQ6)

B.2.3 Self-care and gym

Many participants valued physical activity and considered it one of the most effective forms of self-care. They prioritized their self-care and well-being as essential components to engage in regular exercise. Regular physical activity in the gym would enhance their self-care and positively impact their mental and emotional well-being. It alleviates tension, anxiety, and sadness.

"I started meditation, regular exercise, going for walks, engaging in my hobby of gardening, playing sports, and walking with pets. I tried to keep myself busy with more useful & productive activities to distract myself from the habit of regularly going to the casino". (P0664/a-3/ReQ6)

While another mentioned

"While trying to quit gambling first, I tried to deviate my attention to self-care; I joined a gym under the guidance of a trained professional and joined yoga on the alternate days". (P0166/a-3/ReQ6)

B.3 Changes in social environment

Social support is the primary aspect of changes within a person's social environment and is made up of many spheres formed by the immediate individuals residing together or in which events occur or progress. Other factors are the cultural influence, which encompasses the societal norms, values, and practices that shape an individual's upbringing and current environment, as well as the people and organizations they engage with. Participants explained factors like family members, friends, social media support groups, faith-based involvement, and social workers, which held some central points in quitting their gambling habit.

B.3.1 Family and Friends

"My friends did help me when we went fishing, but I never told them why we went fishing more than usual. My family helped me a lot; they made me engaged by spending time with them". (P0565/b-6/ReQ7)

Others explained,

"Diverted attention to something productive in life with the help of near and dear ones and availed the help of supportive family members or sincere friends; they were available around me all the time to keep the desire of going back into." (P0763/a-3/ReQ7)

"My loved ones supported me. They continuously reminded me to quit because the habit was harming my finances and social life. My family has always provided me with enough love and support that I have not felt the need to see a counselor". (P0967/b-4/ReQ7)

B.3.2 Social media support groups

Participants mentioned that online social support groups or networking established connections for them to share personal narratives on quitting gambling and fulfilling the demand for emotional support. The social media support groups offered practical insights on enhancing the ability to quit gambling and to meet the requirements of its members for emotional support.

"The use of social media helped me in shifting focus to something more constructive, such as the development of new hobbies or the reading of motivational blogs, both of which further strengthened me to give up gambling". (P0465/b-6/ReQ7)

Another participant created a social media support group.

“Social media can assist focus attention on useful activities like learning new hobbies or reading encouraging blogs, which enhances quitting resolve. Social networking allows recovering addicts to reconnect. I have built a social media self-help community for people recovering from addiction to share their stories anonymously”. (P0763/b-3/ReQ7)

B.3.3 Faith-based involvement

Participants’ involvement in church and other faith-based activities helped them to understand their responsibilities and reflect on religious sermons.

“Me having game night at the house and also going to church. I don’t know about you, but the church is very good. I would go and help get the church ready for services and do some church activities. It would take my mind off gambling for some hours, and it was a peaceful feeling”. (P0266/a-3/ReQ7)

Another helped in church services,

“To some extent, I think religious sermons on the need not to engage in gambling also contribute. I am religious, and the religious tag of wrong associated with gambling also weighed on me. I saw the need to avoid gambling to fulfill my religious responsibilities”. (P01063/b-3/ReQ7)

A. Insights into gambling quitting programs

Participants gave thoughts on the gambling quitting programs and the modalities of delivery. While it may seem that they have the ability to stop gambling, they need proactive measures that may be taken to gain control of their lives. We analyzed the codes and categorized them as face-to-face counseling, support groups, multidisciplinary help, online resources, and alternate activities that can effectively address problem gambling (Figure 2).

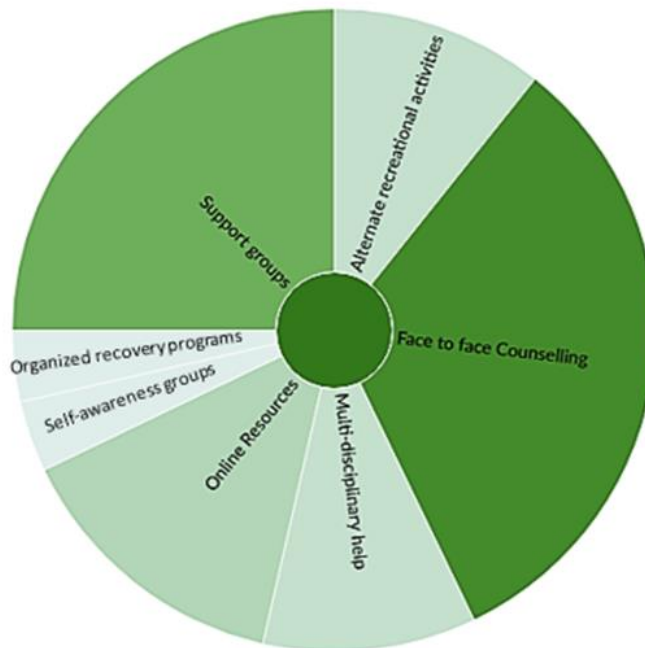


Figure 2. Insights into gambling quitting programs and modalities

C.1 Multidisciplinary help

“It is essential, in order to assist elderly people, to establish support groups and employ support staff who are able to monitor their activities. Investigate the factors that led to their decision to start gambling in the first place. There are times when underlying mental health concerns present themselves as a problem with addiction”. (P0465/b-6/ReQ9)

C.2 Online resources

"In recent times, it is important that both modes be utilized according to the situation. With the global pandemic in full swing, it is important that online mode is used. However, when the situation is under control, face-to-face programs can be organized. Simultaneously through online interaction the power of choice lies on the individual if they want to participate or not sometimes this power of choice empowers the person who is already struggling with addiction issue". (P0166/a-3/ReQ9)

C.3 Support groups

"A support group, a fun activity, not just sad old people hanging out. I believe some recreational activity such as games or hobbies could replace the cravings for gambling". (P0565/b-6/ReQ9)

Another participant explained,

"It is essential, in order to assist elderly people, to establish support groups and employ support staff who are able to monitor their activities". (P0465/b-6/ReQ9)

C.4 Face-to-face counseling

"In face to face, there is an opportunity to interact with people who are in a similar condition are significantly increased. Face-to-face encounters can open the door to some prospect of forming new friendships, which can be a significant step toward providing a remedy for those people whose addiction is driven by feelings of isolation. Participating in face-to-face interactive sessions can help people take their minds off their addictions and point them on a different path in their cognitive process". (P0465/b-6/ReQ10)

Another explained,

"I like seeing people. Face-to-face meetings are nice. I stay at home all day, watching TV and just saying hi to my neighbors. it will be nice to meet in person and make friends. Yes, I am old, and I still want to make friends". (P0872/b-2/ReQ10)

DISCUSSION

To our knowledge, this is the first qualitative study in gambling behavior modification described on the precept of a theoretical framework. The findings from our study indicated that the decrease in gambling may be elucidated by using a robust framework of MTM. Based on the findings of this research, most of the participants comprehended the advantages of quitting gambling. They expressed that initiating such behavior yields improved health, reduced expenses, and enhanced social perception.

Most participants find a new level of fun and excitement at the casino. Compulsive gambling at casinos may develop into an addiction for many seniors, particularly those prone to depression, due to the inevitable losses and changes that come with becoming older [1,6]. The same points have been given by the participants as lack of thrill and excitement (P0465/b-6/ReQ2) but more issues with mental health (P01063/b-3/ReQ1).

The context is that quitting gambling can have the advantages of business accomplishments, helping them secure financial savings and break the vicious circle (P0266/a-3/ReQ1), particularly among gamblers motivated to quit [2,3]. The findings of our study have also explained that highlighting the advantages of quitting gambling behavior, such as improved health and reduced expenses, might actively contribute to the reduction of gambling disorders. Hence, educational interventions should prioritize the benefits of embracing healthy behavior or rectifying detrimental health behavior. Hence, there is intersectionality in the constructs of the MTM for risky behavior and protective factors for problem gambling, the impetus to initiate gambling, and the positive and negative health effects of gambling on overall health.

Regarding the drawbacks of quitting gambling, many older adults in our study expressed concerns about less entertainment, potential loss of friendships, and reduced spare time. Changes in the physical environment are conducive to the creation and implementation of comprehensive strategies and actions to prevent, decrease, or eliminate gambling disorders in older adults. Participants mentioned multidisciplinary approaches to capture the root cause of such behavior (P0465/b-6/ReQ9). This includes improving or altering the physical environment by removing all indications and triggers of gambling incentives. Additionally, many reported experiencing adverse

effects resulting from the cessation of gambling, which would be temporary, provided they would not revert to gambling. (P0266/a-3/ReQ4).

Behavioral confidence overcomes the barriers to quitting gambling problems, including factors such as feelings of humiliation, denial of the issue, social stigma, doubts about the efficacy of therapy, and limited access to resources [30]. Self-efficacy has been explained as the breakdown of the betting cycle (P01063/b-3/ReQ3) and may indicate the need to implement enhanced interventions for gambling-related issues directly inside casinos' premises [13].

Faith-based institutions have played a central role in the quitting of gambling in a few participants, which can be contingent on satisfaction and reformation of the set of practicing religious guidelines (P0266/a-3/ReQ3). Participants mentioned prayers, religious sermons, and inner peace as important factors in behavioral confidence and changes in social environment. It is important to note that the two constructs are situated in the initiation and sustenance phases of the MTM, respectively, and determine the long-term behavior change, fulfilling the expectations and expectancies in a positive behavior change. Overall, our study corroborates the overarching theme of previous research, indicating that religion has an impact on the gambling behavior of Americans and regards religion as a multifaceted concept, specifically emphasizing tradition, attendance, and salience [31].

The use of the MTM of health behavior change can imply modifications that would be beneficial in elucidating the gambling quitting habits and practices seen among older adults [32-34]. Our study has also explained the insights of older adults in devising gambling quitting programs, policies, and interventions to facilitate behavior change in this specific demographic population. According to the participants in the study, gambling addiction is associated with carvings and is an indicator of the degree of gambling addiction, frequency of gambling episodes, tenacity in pursuing losses, and engagement in income-generating betting activities [35]. It may be significantly influenced by the existence of the intense need for substances or the urge to undertake an action, while counseling modalities, either in-person or virtual, would control impulsive behavior, particularly when exposed to certain triggers related to addictive behaviors (P0266/a-3/ReQ2).

Study limitations

There are some limitations in our study. This qualitative phenomenological research focuses only on older adults in a metropolitan area. Due to its qualitative nature, the study only offers a limited understanding of a specific moment and cannot be generalized to all older adults in all communities. Another limitation is that the participants are predominantly males, which limited our understanding of gambling quitting behavior in females. Furthermore, the current study's methodology is constrained in its ability to definitively establish effectiveness due to its phenomenological nature. Though the study has been presented within the framework of COnsolidated criteria for REporting Qualitative research (COREQ, Additional File 1) [19], data triangulation has not been applied to test the validity of the convergence of data from other sources.

CONCLUSION

An individual becomes susceptible to any kind of addiction at their utmost state of mental vulnerability. Hence, we must do a thorough investigation to ascertain the underlying cause that led to the development of this addiction. It is crucial to analyze and address the underlying reason to completely eradicate this addiction. Therefore, the one seeking to overcome addiction must comprehend the specific aspects that are contributing to this problem. Nevertheless, once this awareness dawns, it is not difficult to conquer this problem via pure cognitive fortitude and determination. To effectively address stresses that contribute to gambling addiction and risky behaviors among older adults, to devise several strategies and mechanisms with thorough insights built on robust theoretical frameworks like MTM. According to the results of the study, a wide array of strategies, interventions, and behavioral curricula can be developed and applied at the individual level to encourage behavioral practices in the initiation and sustenance of gambling quitting.

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Institutional Review Board Statement: The research protocol (1418598-1) for the current study was approved by the Institutional Review Board of the University of Nevada, Las Vegas. Informed consent was obtained from all subjects involved in the study. The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of UNIVERSITY OF NEVADA, LAS VEGAS (protocol code 1418598-1 approved on November 18, 2022).

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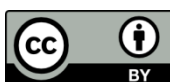
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