

Factors in determining the development of problem gambling and motivation to quit gambling addiction among offenders

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This study explores the factors in developing a gambling problem and in motivating to change their gambling addiction among offenders in Australia. In the pathways to their gambling problems, there are several contextual factors contributing to their gambling disorder. Personal, family, social, economic, environmental factors, cultural values, attitudes, and beliefs attribute towards gambling and trigger events. Some problem gamblers may finally resort to crime to pay their gambling-related debts and continue their gambling to chase their previous losses. They may be caught in a vicious cycle of problem gambling, illegal behaviours, and recidivism. It is hypothesized that the contextual factors, including cultural values and family environment of the problem gamblers, will influence risk factors of developing problem gambling and motivation to later quit their gambling addiction. Glaser and Strauss' Grounded Theory of Qualitative approach was applied in this study. The researcher interviewed fifteen problem gamblers with criminal histories. After gathering and analysing data, a theoretical model was designed to explain the pathways of developing their problem gambling and their motivation to change among problem gamblers with histories of committing offences.

Introduction

Gambling is an everyday social and relatively low-risk activity for most people. A few terms describe people with gambling problems, including problem gambling, compulsive gambling, pathological gambling, and gambling disorders (Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association, 2013). In Australia, problem gambling has been defined as a lack of control by the gambler over their gambling behaviour, resulting in adverse personal, economic, and social consequences in gamblers and their families' lives (Productivity Commission 1999, p.17). In the pathway to their gambling problem, there are many factors contributing to their gambling disorder, including ecological, sociological, biological, cognitive, behavioural, and personality. Although different models explain the pathway of development and maintenance of problem gambling, they do not explain why some gamblers

motivate to quit while some gamblers relapse after abstaining for an extending period. This paper fills the gap of current theories that cannot explain why the same situations can trigger gambling or be motivated to quit.

Background and rationale

A literature review has been done to summarise on theoretical models of problem gambling in explaining pathological gambling (Lesieur & Rosenthal 1991, Sharpe and Tarrier 1993, Griffiths & Delfabbro 2001, Blaszczynski & Nower 2002, Raylu & Oei 2002, Sharpe 2002, Rickwood et al. 2010, Upfold 2017, Menchon et al. 2018). Lesieur (1984) developed a grounded theory of the compulsive gambler's spiral of options and involvement model. Rosenthal and Lesieur (1996) hypothesized that gamblers have two characteristics: escape seeker; and action seeker. Jacob (1986) proposed a general theory of addiction to explain various addictive behaviours, including gambling. Griffiths and Delfabbro (2001) argued that gambling is a multifaceted behavior involving biological, psychological, and sociological components that interact together to contribute to the gambling behaviour. Therefore, no single theory can explain the etiology and maintenance of gambling behaviour. Griffiths and Delfabbro (2001) have proposed a comprehensive biopsychosocial approach to explain gambling addiction. Blaszczynski and Nower (2002) have further elaborated the biopsychosocial approach of gambling and identified different

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gamblers in their Pathways Model of Problem and Pathological Gambling (Blaszczynski 2000, Blaszczynski & Nower 2002).

Despite different models explaining the development and maintenance of problem gambling, they do not explain why some gamblers relapse after abstaining for an extending period. Some researchers have postulated models to explain the process of relapse (Brown 1987, Marlatt & Witkiewitz 2005). Brown (1987) postulated that gambling is very exciting and a form of arousal, which becomes cognitive expectancy and reinforcer of gambling behaviour for an abstained gambler. Although the reinforcement schedule of gambling has been broken after an extending period of abstinence, abstaining gamblers are triggered by internal mood states and cognitive expectancy of the former pattern of gambling experience in addition to external environmental situations and playmates of former gambling. All these internal and external stimuli will be relapse-provoking situations that produce pleasant arousal and relief from boredom (Brown 1987). Marlatt proposed that relapse results from an interaction between a person's internal factors and external factors. Internal factors include affect, coping, self-efficacy, outcome-expectancy, while external factors consist of social influence, access to the substance, and cue exposure. Marlatt assumed that if gambler attributes to internal, global, and uncontrollable factors, risk of relapse increases. If the individual attributes to external, unstable, and controllable factors, the risk of relapse reduces (Marlatt & Witkiewitz 2005). It is assumed that individuals will be influenced by stimuli from relapse-provoking situations and drive them to meet their cognitive expectancies of the former pattern of gambling behaviour. Stimuli and relapse-provoking situations are built up over some time during their abstinence and drive the gamblers to hang on to relapse.

Chantal et al. (1995) reported motivation is a crucial determinant of gambling involvement. The motivation for change reflects the readiness for change along the stages of change. Both internal and external elements drive motivation for change. Internal or intrinsic factors include cognitive, attitude, and awareness of the negative consequence of the addiction behaviour. In contrast, external factors cover the influence of other people and life crises on the gamblers (Evans & Delfabbro 2005). According to the Self-Determination Theory (SDT), the study showed that high autonomous motivation for quitting, such as awareness of gambling addiction problems, improved self-image, and a desire for a new life, predicted higher readiness for change.

In contrast, high external motivation for change, such as family pressure, reflected the lower stage of change. Intrinsic and autonomous forms of motivation are significantly associated with treatment success (Kushnir et al., 2016). However, research has reported contradictory results that external factors are more associated with higher motivation for change. Evans and Delfabbro (2005) reported that external factors such as physical and mental health, financial pressure and effects of gambling on relationships, and losing one's home, which put them in a life crisis, were the important reasons for seeking help while internal elements of feeling shame and denial of their gambling problem, belief of own self-control without professional assistance were their resistance to quit gambling and their main barriers to seek help. Help-seeking more likely occurs in response to external factors of gambling-related harms such as financial problems, relationship issues, and psychological distress (Suurvali et al. 2010, Gainsbury et al. 2014).

Gambling studies have reported inconsistent findings

on the influence of internal and external factors on problem gamblers' prognosis. It shows that internal factors interact with gambling's external factors, attributing gamblers to either gamble more intensely or motivating them to quit. Internal and external situations can trigger more gambling, as reflected in the problem gambler's higher IGS score (Turner et al., 2013). However, internal and external conditions can also motivate gamblers to change their habitual gambling behaviour and quit (Kushnir et al. 2016, Evans & Delfabbro, 2005).

Therefore, there may be some elements in influencing the role of internal and external factors in contributing to the maintenance and relapse of gambling or motivating them to quit their gambling. This paper postulates a grounded theory that explains a mechanism in navigating the internal and external elements to be either motivation to quit or trigger situations for gamblers to relapse.

Methods

In this research, Glaser and Strauss' Grounded Theory of Qualitative approach has been applied (Glaser and Strauss 1999), and a qualitative research tool for in-depth interviews was employed.

Participants

The target participants were problem gamblers with gambling-related offences, which were mainly money-generating crime. This study was conducted in the Perth Metropolitan area of Western Australia. Recruitment of participants was done voluntarily. The promotion of the research was done through non-profit gambling treatment organisations.

There was a total of fifteen participants who completed the interview, including seven males and eight females. Their ages ranged from 24 to 55, with a mean age of 35.87 and a median age of 35. Eight were separated, three were single, three were de facto in the relationship, and one was married. Ten participants had children. Six participants were Indigenous Australians, five were Caucasian Australians, one was Vietnamese Australian, one was Albanian Australian, one was a decedent of a Pakistan father and an English mother, and one Caucasian Australian participant whose stepfather was an Italian.

Procedure

All interviews were undertaken in the interview room of the referral organisations. There was a window at the interview room's door to see through and check the persons' safety inside the room and other safety mechanisms.

Since this research relied on participants' self-reports, the researcher did not know the participants' background or previous illegal activities before. Therefore, this study depended on the willingness of the participants to explore the details of their convictions. The researcher also needed to maintain confidentiality. The researcher was careful to make sure that the survey questions did not cause participants any distress. All participants were followed up by their case managers from the referral organisations. This made sure that the participants were not left vulnerable after the participation in this research.

The interviews were audio-recorded by an electronic device, an MP3 player. To protect the anonymity of the participants,

participants' real identities were replaced with pseudonyms. The participants were also told to avoid divulging specific information such as names and details of specific criminal events for which they or any other third party had been arrested (Israel 2004). Note-taking was also conducted for those interviews. The researcher noted all essential data given by the participants.

The participants were asked about their demographic backgrounds, including their age, country of birth, and family constellation. The researcher interviewed the participants according to the scheduled semi-structured interview.

Measures

Instruments

The researcher has designed a semi-structured interview schedule, based on his clinical experience, literature review, and knowledge in this research topic, to guide and encourage participants to reveal relevant information. The interview schedule aims at collecting the gamblers' demographic data, their interaction with their families, their pathway of problem gambling development, and their journey to illegal activities.

Qualitative Measures

Glaser and Strauss' Grounded Theory of Qualitative approach was applied (Glaser and Strauss 1967 & 1999, Strauss and Corbin 1998). The program has canvassed the core variable of the cultural value of problem gamblers with different country backgrounds. The participants were interviewed and asked their cultural values, which are central and influential in the development and triggers of their gambling, motivation, and barriers to change their gambling addiction. Software Nvivo was used to code and develop categories that contribute to an evolving theory.

Data analysis process

Interviews were audio-recorded, and then all interviews were transcribed from the audio record verbatim. Each interview transcript was assigned a number and was printed out in a physical copy. The researcher read the transcript multiple times. Then, the researcher conducted data analysis of the transcript. The researcher followed Glaser and Strauss's (1967) and Strauss and Corbin's (1998) Constant Comparative Method to undertake the collected data's qualitative analysis. There are four stages of constant comparative method. The first stage involved open coding by comparing incidents to each category. The second stage involved axial coding in integrating categories and their properties. The third stage involved selective coding and delimiting the theory. The final stage consisted of writing the theory.

In the process of iterative analysis, the researcher moved back and forth through the data to find, compare and verify the patterns, concepts, categories, and dimensions of phenomena. The transcript was coded according to the themes of the phenomena. After identifying the relationships between the themes, the researcher tried to merge similar themes and developed hypotheses of the theory. Finally, a new grounded theory was developed from the hypotheses.

Results and Findings

Stage 1: Comparing incidents to each category – open coding

The first stage was an initial open coding of interview data. Analysis of data was started by coding each incident into as many categories as possible by constant comparative analysis. The researcher started coding in terms of types or continua of the category. This constant comparison of the incidents generated theoretical properties of each category.

During the process of constant comparison analysis, coding of categories of each incident was noted on margins of the transcript verbatim. Then, Software Nvivo was used to obtain a systematic coding of the data. During the initial open coding of data, 538 incidents were coded, and 86 categories emerged.

Stage 2: Integrating categories and their properties – axial coding

As coding continued, the constant comparison accumulated knowledge of the properties of categories and began to group similar categories according to the properties of categories. The continuous comparative analysis examined the trend and patterns of categories.

The category integrated with other relating categories into themes through constant comparisons. Finally, axial coding integrated the categories of open codes together. After achieving eighty-six categories from the initial open coding, the categories were integrated with other categories through constant comparisons. This constant comparative analysis integrated the categories into the next level of sub-themes. Axial coding and continuous comparative analysis integrated the initial eighty-six categories into fifteen sub-themes. Further axial coding and constant comparative analysis of the 15 sub-themes were integrated into seven major themes: offences, substance abuse, well-being, relationships, contextual factors, the prognosis of gambling addiction, risky situations and quit.

Stage 3: Delimiting themes and theory – selective coding

As themes developed, significant modifications of themes became fewer and fewer through the comparative analysis. Later modifications were mainly on the order of clarifying the logic, taking out non-relevant properties, elaborating details of properties through integration and reduction. By reduction, uniformities in the original set of categories or their properties were discovered and then integrated into significant themes. By further reducing themes and analysis with literature, major themes then formulated a set of higher-level abstract concepts and hypotheses. There were 16 hypotheses developed from the seven major themes.

Hypothesis 1: The gambling pathway is non-linear and dynamic depending on the interaction of internal, external, positive, and negative factors.

Hypothesis 2: Cultural and environmental factors can either be a protective factor to quit or trigger a relapse.

Hypothesis 3: Emotion can be a positive motivation to quit or negative triggers to relapse

Hypothesis 4: Emotional state and gambling prognosis is dynamic and reciprocal.

Hypothesis 5: Addiction as a coping strategy to numb physical and psychological pain.

Hypothesis 7: Risky Situations can be triggers to gamble

- Hypothesis 8:** Risky Situations can be a motivation to quit
- Hypothesis 9:** Supporting relationship acts as a buffer to protect gamblers from relapse.
- Hypothesis 10:** Non-supporting relationship increases gamblers' vulnerability to relapse
- Hypothesis 11:** Relationship is a mediating factor navigating the gamblers either to motivation to quit or to relapse to gambling behaviour.
- Hypothesis 12:** Motivation to quit and relapse to gamble is on a continuum.
- Hypothesis 13:** The same factor can act as barriers to quit or support to quit.
- Hypothesis 14:** Offences can be the cause or consequence of gambling.
- Hypothesis 15:** Financial pressure of gambling motivates gamblers to commit offences. Financial benefit from violations relieves gambler's financial stress and mitigates the chance to gamble on the other hand.
- Hypothesis 16:** Stress of committing crime increases the risk to gamble.

Stage 4: Generating a new grounded theory

At the final stage, all hypotheses are integrated into synthesis and develop a new grounded theory. A new grounded theory is generated to fill the gaps in the literature in explaining a substantive area. Through a systematic constant comparative analysis, properties of categories, themes, and hypotheses are generated and integrated towards a new grounded formal theory, as shown in figure 1.

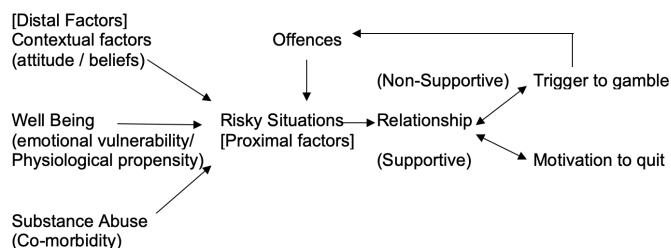


Figure 1. A grounded theory of Family Attitude Navigating Model of Gambling Problem

A proposed Family Attitude Navigating (FAN) Model on the prognosis of a gambling problem

Most theoretical models have tried to explain the pathways to gambling problems and identify the essential elements contributing to gambling disorders. However, few studies explain what elements trigger gamblers to relapse after a long period of abstinence and what factors motivate gamblers to quit their gambling addiction. Therefore, there may be some elements in influencing the role of risky situations, internal and external factors in contributing to motivation to quit or trigger relapse to gamble. The purpose of this paper is to fill this gap. It postulates a grounded theory that explains a mechanism in navigating the risky situations to be either motivation to quit or trigger to relapse.

Gambling development is non-linear and dynamic depending on the interaction of internal, external, positive, and negative factors. Problem gamblers may be motivated to quit after years of gambling, and then they may be triggered to

relapse after months of abstinence. Therefore, their prognosis of gambling is not unidirectional nor static but dynamic, depending on the interaction among different elements. There is a reciprocal relationship between gambling behaviour and triggering factors. There are two essential natures of factors in contributing to gambling: distal and proximal factors. Distal factors are indirect risk factors which create tendencies and vulnerabilities that predispose individuals to gambling problem when combined with proximal risk factors. Proximal factors are direct factors that have a more immediate impact on the likelihood of developing a gambling problem (Hing & Russell 2019).

Distal factors

Three critical distal factors form the basic and predisposition towards gambling development. Three distal factors include contextual factors, well beings and co-morbid of substance use.

Contextual factors form the latent affinity of gamblers towards gambling addiction. Family environment and cultural background carry much weight in shaping the attitudes toward gambling behaviour. Through social learning, problem gamblers begin their gambling from initial family or social gatherings with gambling activities. Family members and peers are important role models in shaping children's gambling behaviour. Most gamblers learn gambling from their family members or peers. They develop a positive attitude towards gambling and may result in higher levels of gambling involvement. Besides positive gambling attitudes, gamblers also learned gambling as coping strategies, which further put them at risk of developing their gambling problem.

However, a positive attitude toward gambling alone is not enough for people to develop a gambling problem. One study reported no significant correlation between the attitude and beliefs towards gambling and its severity. However, there was a significant association between gambling attitudes and beliefs and the trigger situations to gambling and a significant association between trigger situations and gambling severity. The results indicated that attitudes and beliefs to gambling did not directly influence the severity of the participants' gambling problem. Attitudes and beliefs were associated with gambling triggers but not associated with the severity of the gambling problem. The triggers were significantly related to the severity of the gambling problem (Fan, 2017). This study suggested that cognition and attitudes are not the key facilitators in contributing to a gambling problem.

Moreover, this finding contradicts Battersby's study that reported cognition of craving and urges being the main mediating factor in contributing to relapse (Battersby et al. 2010). In this new grounded theory, cognition factors of craving and positive attitudes towards gambling are distal elements towards gambling propensity but not the proximal factors to gambling behaviours. Therefore, it hypothesised that contextual factors might cultivate a positive attitude and belief towards gambling. Then, a positive attitude and beliefs towards gambling may spur the interaction with risky situations.

On the other hand, contextual factors, such as cultural background, may either cherish favourable or unfavourable bias towards gambling behaviour. For example, gambling is legalised in Australia, while gambling is banned in many Muslim countries and discouraged in Italy's orthodox Catholic culture. Therefore, people of different cultural and religious backgrounds may first

develop an unfavourable attitude towards gambling. However, they may shift to favourable attitude towards gambling after being accustomed to local culture when they move to a new environment.

The second distal factor is the gambler's well-being. Well-beings include both emotional and physical well-being. Emotional well-being can be a positive motivation to quit or negative triggers to relapse. Emotional state and gambling prognosis are dynamic and reciprocal. Emotional well-being is intrinsic and internal factors can be positive or negative in nature. Negative emotions, such as boredom, anxiety, stress, or depression, might trigger gamblers to numb their feelings or seek emotional arousal through gambling behaviors. Negative consequences of gambling can contribute to a negative emotional state. This can place gamblers in a cycle of gambling and negative emotional states. However, negative emotional states, such as shame, regret, and guilt, can also inspire gamblers to contemplate their gambling behaviours and motivate them to quit. Therefore, negative emotional states can insert either a negative or positive effect on the problem gamblers' prognosis.

On the other hand, a gambler with positive emotional states such as proud, delighted, euphoric, ecstatic, and thrilled can also contribute to continuing gambling or to relapse. Simultaneously, successful abstinence strengthens positive emotions such as calmness, gratitude, and blessedness, which in return increase their self-efficacy and confidence in keeping abstinence, and the gambler will be less likely to resort to addiction behaviour. Therefore, emotional well-being has a reciprocal relationship with gambling behaviours.

Moreover, the physiological state is not confined to personal propensities such as impulsivity or anti-social personality, and gambling behaviour. The reciprocal interaction between addiction behaviour and physical well-being is as significant as the emotional state. A negative physical state, such as sickness, being hospitalised, and injury, can trigger people to addiction behaviour, including gambling, dissociating, and numbing their pain. Therefore, emotional and physiological well-being contributes to some people being emotionally vulnerable and physically susceptible to resorting to gambling as a coping strategy to numb psychological and psychological pain.

The third distal factor is co-morbidity with substance use. Substance use might contribute to reduced volitional control and increased risk of gambling. It is expected that problem gamblers have co-morbid substance use disorders – most commonly with alcohol and methamphetamine. The relationship between substance use and gambling is dynamic and reciprocal. Therefore, substance use can increase gambling behaviour, while gambling may also drive gamblers to take drugs. Substance use drives gamblers to gamble more because of a few reasons. Substance use reduces the volitional control of the gamblers to continue their gambling behaviour. Substance use can influence gamblers' affect, such as being euphoric, elated, joyful, excited, thrilling, and feeling high. These positive affects drive gamblers to enjoy gambling activities, dissociating from the consequence of gambling or losing the volitional control of their gambling. Gamblers commonly report that after they have alcohol and or methamphetamine, they gamble more.

On the other hand, gambling increases substance use among gamblers. Firstly, the negative consequence of gambling causes gamblers to feel stress and anxiety. Gamblers may resort to using drugs and alcohol to relieve their stress and anxiety. On the other hand, some gamblers reported using methamphetamine

to keep awake to gamble continuously over a few days without sleep.

So contextual factor cultivates the propensity towards gambling, well-being contributes to emotional and physical vulnerable towards gambling. At the same time, co-morbidity of substance use disorders can reduce the volitional control towards gambling. These distal factors form the base and susceptibility of the gamblers to the development of problem gambling. However, distal factors alone do not guarantee the development and maintenance of gambling addiction. Despite propensity and vulnerability towards gambling, gamblers still need to meet the proximal risky situations which trigger their gambling behaviour.

Proximal factors

Risky situations are the high-risk situations that are the immediate precipitators of initial lapse and the determinants of relapse. Risky situations might contribute to gamblers participating in gambling activities and threatening gamblers' decisions to control their gambling behaviour. Risky situations can be internal and external factors such as negative emotion, positive arousal, self-image, peer pressure, financial pressure, shame, relationship conflicts, facing legal issues, and financial crises. The Centre for Addiction and Mental Health designed the Inventory of Gambling Situations (IGS), which covered eight categories of high-risk situations of gambling (Littman-Sharp, Turner & Toneatto 2009). The eight categories of high-risk situations in IGS include: winning and chasing, pleasant emotions, need for excitement, conflict with others, social pressure, testing personal control, urges and temptations, negative emotions, worried about debts, and confidence in skills.

Risky situations are proximal factors that may trigger the immediate risk of gambling, but risky situations do not necessarily result in gambling. Some gamblers have acquired cognitive and behavioural skills to cope with risky situations. However, their coping skills do not necessarily guarantee they will be immune from relapse. Some gamblers relapse shortly after treatment. There is another essential element in mediating risky situations to influence the prognosis of gambling behaviour.

Relationship factor

The mediating factor in determining gambling behavior's prognosis is the relationship between problem gamblers and their families. The prognosis of gambling depends on the family's interpersonal dynamics and the interaction between the gamblers and their families. The relationship between problem gamblers and their families can be supportive and non-supportive. Supportive relationship acts as a buffer to protect gamblers from relapse. Non-supportive relationships can increase gamblers' vulnerability to relapse. Relationships are mediating factor influencing motivation to quit or to relapse to gambling behaviour.

In terms of relationships, it is the interaction between the gamblers and their families or Concerned Significant Others (CSOs), including spouse, children, parents, siblings, extended family members, relatives, friends, or colleagues, who provide essential financial and emotional support to the gamblers. Relationships are not confined to emotional expression but also include behavioural interaction. Relationships and gambling are dynamic and reciprocal. Therefore, relationships influence the prognosis of gambling, while the prediction of gambling also

influences the relationship between the gamblers and CSOs. It is not a unidirectional relationship between families' interaction and gamblers' prognosis. There exists an interaction between the gamblers and their families. Families can change from non-supportive interaction to supportive interaction towards problem gamblers when problem gamblers show progress in abstinence. On the other hand, the relationship between gamblers and their families can shift from supportive to non-supportive when gamblers relapse to gamble. It is proposed that there is a reciprocal role of family on recovery and dysfunction on problem gamblers.

In this hypothesis, the relationship is termed as supportive and non-supportive rather than positive and negative, as most theories labelled. It is because the negative relationship generally implies unfavourable, aggressive, criticising, harsh or hostile attitude towards gamblers but excludes the families' non-hostile attitude such as withdrawal behaviour towards gamblers, such as overprotective, emotional over-involved, sacrificed behaviour, indifferent and detaching behaviour. While the positive relationship may only imply favourable acceptance, empathy, compassion, or unconditional love towards gamblers but excludes families' firm, constant remind, and supervision towards gamblers may also be stressful. Moreover, the loss of family members, including parents, children, siblings, or cousins, can also influence gamblers' prognosis depending on the interaction and relationship between gamblers and their families. Loss of family members, especially children, will be trauma to gamblers.

On the other hand, the loss of parents or dying parents can motivate gamblers to quit. Dying parents may exhort gamblers to change their addiction behaviour. In this study, it is hypothesised that the relationship between gamblers and their families mediates the prognosis of the gamblers. Supportive relationship acts as protective buffers for gamblers from relapse and motivation to quit. In contrast, the non-supportive relationship increases the gambler's vulnerability to relapse or increases their barriers to seek help.

This dynamic interpersonal element is the role of families' attitudes and interactions towards the problem gamblers. If families express negative attitudes of criticism, hostility, emotional over-involvement, withdrawal, and detachment towards their problem gamblers, these negative attitudes and behaviour will cultivate a non-supportive relationship. This non-supportive relationship will put extra tension on the vulnerable gamblers who may resort to gambling as a way to cope with the stress and results in their relapse. On the other hand, if families express positive attitudes of warmth and positive remarks, their positive attitudes will be supportive towards gamblers for recognising their efforts in abstinence and encouraging problem gamblers to abstain and quit gambling.

Therefore, despite facing the same internal or external factors, family members can have different effects on the problem gamblers' prognosis depending on the family's attitude and interaction towards the problem gamblers. For example, as the problem gambler faces external stressors, such as financial pressure, or if the family members express negative attitudes such as criticism and hostility, the stressful family environment will become a risky situation which can further deteriorate the relationship and impose pressure on the vulnerable problem gambler who may relapse to gamble to seek the emotional escape of the crisis. In this situation, internal elements of feeling shame and belief of their own strategies to solve their financial

problem by gambling can be barriers for the gamblers to seek help. Although gamblers feel shame, guilt, and remorse, they disconnect these emotions and defend or deny these feelings in response to their spouses' blame (Lee 2002). Therefore, families' negative attitudes and interactions can impact the gambler's internal feelings and external stress of life crisis to relapse to gambling.

On the other hand, if the family members express a positive attitude such as warmth and positive remarks, they can provide a supportive relationship, encouragement, and calming effect towards the problem gambler to abstain from gambling. In this situation, external factors of life crisis and internal factors, such as awareness of the consequence of gambling and improving self-image, can motivate problem gamblers to quit gambling and sustains behavioural change of abstinence. Moreover, supportive relationship can become protective factors, such as family cohesion and family connectedness, to buffer the influence of risky situation such as peer pressure and becomes a protective factor against high-risk behaviours. This Family Attitude Navigating (FAN) model postulates a mechanism of the family's attitude and relationship in navigating the risky situations to either motivation to quit or trigger to relapse.

Finally, excessive gambling loss increases their debts and reduces other options available for resolving their debts as all their legitimate ways to borrow money are exhausted. Exhaustion of their money source drives them to commit offences to generate money to pay their gambling-related debt and continue their gambling. However, the financial pressure of gambling motivates gamblers to commit offences. The financial benefit from offences also relieves gamblers' financial stress and mitigates the chance to gamble on the other hand. Moreover, the stress of committing a crime also increases the risk to gamble.

The negative consequence of gambling, especially exhaustion of money, drives some gamblers to commit a crime to make money to pay the gambling-related debt and to continue their gambling addiction. The nature of crime usually is money generated crime such as thefts and receiving, fencing stolen goods. Gains benefit by fraud, burglary, and embezzlement. The most common crime among the participants in this study is the possession of a prohibited drug, possession of prohibited drugs with intent to sell or supply, and drug trafficking because of two reasons. First, those gamblers already used drugs and had a connection with drug dealers. Second, drug dealing is the fastest way to make money. Some gamblers even reported that they did not rely on gambling for money after making money from drug dealing. Therefore, the financial benefit from drug dealing relieves gamblers' financial stress and mitigates the need to gamble for money as before. However, some gamblers also reported that they felt extremely stressed during the journey of drug trafficking, which drove them to resort to gambling to relieve the stress of being caught by police. Therefore, offences can be both cause and consequence of gambling. Committing a crime also becomes a risky situation when gambling.

Therefore, it speculates that key family relatives and CSOs expressing a negative attitude towards their gambling family members can contribute to a non-supportive relationship, which mediates the risky situations and trigger problem gamblers to relapse. On the other hand, the CSOs who are more prone to express a positive attitude towards problem gamblers can contribute a supportive relationship that mediates risky situations and motivates gamblers to seek treatment and to restrain from gambling. The vulnerability-stress model explains that relatives

who expressed a negative attitude are more emotionally arousing to the patients. In contrast, relatives who express a more positive attitude tend to have a calming effect on their family members. Stressful life events and social, environmental stress can interact with the patient's pre-existing vulnerability characteristics and produces psychotic episodes (Nuechterlein & Dawson 1984). Therefore, it postulates that when the CSOs are critical and hostile towards problem gamblers, their negative attitudes may be stressful to problem gamblers. The stressful family environment may trigger problem gamblers to relapse of gambling. Centre for Addiction and Mental Health (CAMH) Inventory of Gambling Situations (IGS) has identified that "Conflict with others" is one of the triggers to problem gambling (Littman-Sharp et al. 2009). Rosenthal and Lesieur (1996) hypothesis that some problem gamblers are "escape seekers" and they resort to gambling as a way to escape to numbing or oblivion. The negative attitude of CSOs towards problem gamblers may unintentionally contribute to their relapse. CSOs' negative attitudes could be a trigger for problem gamblers to relapse in order to escape the adversity of family environmental stress. Therefore, it supports the Co-dependency theory that the family's loss of control over emotion will associate with the drinker's loss of control over drinking. Moreover, when CSOs are too emotionally over-involved or over-protective towards the problem gamblers, for example, helping them to pay their gambling debt continuously, their over-emotional involvement (EOI) also contributes to the maintenance and relapse of their family members' gambling behaviour. CSOs' over-protective attitude associating with the relapse of problem gamblers explains the Co-dependency theory that the family's tolerance of unacceptable behaviour is associated with the drinker's substance abuse.

On the other hand, when the problem gamblers can be abstinent, it is encouraging for the CSOs to respond positively towards problem gamblers. CSO's positive attitude is rewarding for the gamblers in return. Moreover, CSOs' positive attitude enhances gamblers' emotional well being and provides them with social support as a buffer against relapse. These positive attitudes explain the variation of prognosis of gamblers. Therefore, the family attitude navigating the trigger situations of both internal and external factors into the direction of either relapse of gambling or motivations to quit their gambling addiction. The emergent Family Attitude Navigating (FAN) model of CSOs on the prognosis of problem gamblers is shown in figure 1. The Expressed Emotion theory does not indicate a unidirectional relationship between relative's attitudes and relapse. There exists an interaction between the patients and relatives. Rating of expressed emotion is not necessarily static over time as well (Vaughn 1989). It explains the possibility of the CSOs changing from a negative attitude to a positive attitude towards problem gamblers when problem gamblers show progress in abstinence. It is proposed that there is a reciprocal role of family on recovery and dysfunction on family members with gambling addiction.

Discussion

There were a few limitations to this research. The first is the criticism of offenders' retrospective accounts. Natarajan (2000) suggested that offenders might downplay or exaggerate their roles in their offences. Incarcerated offenders might exaggerate their accounts, lie or avoid telling the truth about their offences. Not all incarcerated offenders trust people working in the prison environment. The inmates may not be willing to explore

their history with people whom they do not know. Therefore, an interview of inmates may not be able to explore in-depth data related to their gambling-related crime. There are also challenges to gain access to incarcerated populations.

Theoretical sampling is recommended in grounded theory research. Theoretical sampling enables the researcher to choose participants who have experienced the phenomena under study. By doing so, a researcher can choose the target samples, providing a more in-depth understanding of the emerging patterns, dimensions, and categories of data, ensuring interviews focus on exploring the data to the point of saturation. Thus, recruiting appropriate participants through theoretical sampling enables the use of smaller sample sizes (Thomson 2011).

In light of the above considerations, this study was modified to recruit problem gamblers with offence histories based in the community, not incarcerated in prison, or still in parole conditions. The researcher recruited fifteen participants, meeting the minimum acceptable number of samples for qualitative research (Guest et al. 2006).

There are no rigorous criteria for sample size in a qualitative study. Qualitative research is labour intensive and time-consuming. The large sample size is often impractical. Moreover, the recruitment of a specific sample target is further restricted by the particular environment and situation. For example, persons with an addiction problem are usually challenging because they often hide behaviors accompanying stigma, shame, and guilt (Scull & Woolcock 2005, Feldman et al. 2014). Some are reluctant to discuss their gambling problem. However, there is a concept providing a guiding principle in determining the sample size in qualitative research.

The concept of saturation is the guiding principle in determining the sample size during their data collection. New data added to the theme and overall theory from interviews of each different sample. However, there is a point of diminishing returns, and it reaches saturation when a different sample's interview does not provide new data, and it becomes "counter-protective" (Mason 2010). The point of theoretical saturation and sample size depends on three conditions: the scope of research, the sensitivity of the phenomena, and the researcher's ability (Thomson 2011). A broader research scope, such as on the general population, requires more data and samples for interviews.

On the other hand, a narrow research scope focusing on a specific target population requires fewer samples. If the nature of the phenomena to be examined is less sensitive, such as values or beliefs towards particular issues, it will be easier for the participant to explore. Then it can reduce the sample size. Moreover, a more open and trusting interview environment can encourage a participant to talk about it and to share their sensitive nature of thoughts through in-depth interview. Finally, the experience and knowledge of the researcher influence the sample size. A researcher with more experience and expertise in the field of research will require fewer participants as they can guide and encourage participants to reveal data (Thomson 2011). Previous experiences enable the researcher to narrow the focus and guide to the essence of the phenomena and thus reduce the number of interviews (Thomson 2011). Mason (2010) also stated that data elicited from ten interviews conducted by an experienced interviewer could be sufficient than if interviewed by an in-experienced interviewer (Mason 2010). In this research, the researcher has clinical experience working

with clients with addiction problems and criminal offences background. He has acquired interview training in the past, and he has also undertaken qualitative research before. His clinical experience and knowledge in this research topic have equipped the researcher with critical skills in the initial designing of the interview schedule and also enabled the researcher to guide and encourage participants to reveal accurate information during interviews. Moreover, interviews were done in the organisations where those participants received services. This interview arrangement provided a familiar and trusting environment for participants to discuss their sensitive nature of experience through in-depth interviews. All participants were willing to talk about their gambling histories and divulged their gambling-related offences. The data collection reached saturation when the researchers interviewed the thirteenth and fourteenth participants. The last three participants revealed similar information that the previous participants had disclosed.

The sample size for grounded theory methodology is suggested between twenty and thirty (Creswell 1998, p.64). In a review of fifty research articles, Thomson (2004) reported sample sizes ranging from five to 350 people for grounded theory research (as cited in Mason 2010). Thomson (2011) reported an average sample size of twenty-five for grounded theory in an analysis of a hundred studies. Atran et al. suggested a minimum sample size of as few as ten participants were able to establish a reliable consensus according to an analytical tool called "Cultural Consensus Model" (as cited in Mason 2010). The research reported that a sample of six interviews was sufficient to develop significant themes and saturation occurred within the first twelve interviews (Guest et al. 2006). It is suggested that a small study with "modest claims" of a specific group, for example, addiction, meets saturation sooner than a study of a general population (Mason 2010). Since this study's target focuses on a specific group of problem gamblers with offences histories, a saturation of data collection is expected to achieve quicker to collate data for significant themes to develop a ground theory in this study.

The researcher has done some previous studies on a related topic based on a lot of literature review. That knowledge stimulated the researcher to logically deduce core variables from a multitude of other logico-deductive models. This may limit the formulation of a new grounded theory emerging from raw data and lead to applying the collected data into some compliance scheme. During this logico-deductive analysis process, the researcher may classify categories and themes according to compliance structures. Within the limitation of preconceived scope and scheme for the theory, the researcher has developed a well-integrated and logico-deductive new formal grounded theory from the raw data, which was specific to this sample of participants who have a gambling problem and criminal history. Formulation of this new grounded theory helps to fill the gap of the existing theory, which cannot explain the prognosis of gambling behaviour among those gamblers with offence history.

This qualitative study has generated a new grounded theory of a family attitude navigating problem gamblers' prognosis. To verify a new theory, a quantitative study is needed to provide empirical evidence to test the theory's hypothesis. Therefore, quantitative research is planned to test the theory's validity and reliability in the next stage.

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