Sharing problem gamblers' experiences: A text analysis of gambling stories via online forum

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Abstract: The present study explored some common thematic domains which characterised problem gambling experiences of adult Italian participants with the aim of understanding motivations and expectations of problem gamblers and thus promoting better psychological interventions. Emotional Text Analysis was performed on 24 problem gambling stories collected via online forum in order to detect the main themes (cluster analysis) and latent factors (correspondence analysis) emerging in gamblers' narratives. Five themes emerged which respectively refer to guilt (16.15%), obsession (27.60%), disease (30.77%), risk taking (15.89%) and emotion regulation (4.17%). In addition, four synthetic dimensions were detected which consent to account the variability of problem gambling experience based on: struggle against compulsion (F1), ambivalent acceptance of gambling (F2), interpersonal detachment (F3) and illusion of control (F4). From the emotional experience shaping the problem gamblers' narratives, this research study allows the identification of some factors which can contribute to quality research on problem gambling and which can provide some useful suggestion for treatment.

Keywords: Addiction, Gambling, Gamblers Anonymous, Text analysis.

INTRODUCTION

Problem gambling refers to a pattern of gambling behavior that an individual perceives is negatively affecting his or her life (Volberg, 2001). Previous review studies on problem gambling highlighted the potential role of some risk factors and mechanisms of action for problem gambling, such as demographic variables (i.e. age, gender) (Ladouceur, Boudreault, Jacques, & Vitaro, 1999; Volberg, Abbot, Rönnberg, & Munck, 2001), cognitive distortions (i.e. erroneous perceptions, illusion of control) (Toneatto, 1999), sensory characteristics (Loba, Stewart, Klein, & Blackburn, 2001), schedules of reinforcement (Griffiths, 1991), comorbid states (i.e. OCD, drug abuse) (Getty, Watson, & Frisch, 2000), and delinquency/illegal acts (Potenza, Steinberg, McLaughlin, Wu, Rounsaville, & O'Malley, 2001a). However, to date, very little is known with regard to the factors which contribute to the development and maintenance of problem gambling (Johansson, Grant, Kim, Odlaug, & Gotestam, 2009). Currently, there is no widely accepted causal explanation or single theoretical model that adequately accounts for why individuals develop a gambling problem. However, the existing literature on the topic is mainly based on behavioral or cognitive models which don't take into account the role of emotions as relevant factors for the development and maintenance of problem gambling.

Learning/behavioral models of gambling (Anderson & Brown, 1984; McConaghy, Armstrong, Blaszczynski, & Allcock, 1983) assume that people become "conditioned" or "learn" the habit of gambling as a consequence of the rewards (or reinforcements) obtained through gambling, based on operant and classical conditioning paradigms. A positive reinforcement schedules that provide a reward such as financial gain intermittently (like during gambling) are known to produce a greater persistence in the behavior even once the rewards of this behavior are stopped. Negative reinforcement can also occur when gambling provides a temporary distraction or escape from a negative emotional state. The act of gambling and associated emotions such as excitement and physiological arousal becomes associated with external gambling cues such as gambling venues, specific times, certain sounds and smells, and also internal gambling cues such as various mood states and cognitions. These processes help to explain why gambling behavior persists despite the individual experiencing negative and harmful consequences from their gambling. However, although learning/behavioral theories may help explain aspects of the

acquisition and maintenance of gambling, they cannot explain why most people only gamble recreationally or why some individuals develop significant gambling problems whereas others do not.

Instead, the cognitive approach to gambling (Sharpe & Tarrier, 1993; Ladouceur & Walker, 1996) assumes that people hold faulty beliefs in relation to their understanding of the odds of gambling, the concept of randomness, and skilled versus chance-determined events. Due to these faulty beliefs and assumptions, individuals overestimate the extent to which they can predict and influence outcomes based upon their own knowledge and skills, which leads to a subjective expectation of success that is higher than the objective odds would dictate. Common cognitive biases include the gamblers fallacy (losses interpreted that a win is imminent), probability bias (incorrect beliefs about randomness which inflates beliefs in relation to winning), magnified gambling skill (overrated their ability to win despite persistent losing and various superstitious rituals (e.g. praying, acting on hunches) which they believe increase the likelihood of winning. Nevertheless, cognitive theories have yet to explain the functional interaction between arousal, conditioning, and cognitive activity, or the transition from recreational to problem gambling.

Gambling in the Italian context

According to H2 Gambling Capital (2012), the Italian market in 2012 represented almost 6 per cent of the gross gambling revenue at a global level, occupying first place amongst the nations at a European level, and fourth position at a world level, behind the USA, China and Japan. More specifically in 2012 the Italian market data showed a total amount wagered in gambling of some 87 billion euro, with a 7.1 per cent increase from 2011. Between 2003 and 2012 the nominal value of the total amount wagered in gambling increased almost six-fold. The per capita wagered in gambling in 2012 increased to 1,400 euro, 900 euro more than in 2004. The statistic relating to the gross gambling revenue of 2012 of 17.4 billion euro recorded a 4.1 per cent fall with respect to 2011. This fall, which follows ten years of continuous growth, is mainly the outcome of a shift on the part of the players towards gambling modalities with a pay-out – that is to say the value in gambling percentages which are paid back in the form of winnings – which is higher. With the passing of time, in fact, a change has been seen in the players' choice of new gambling typologies which assure them of a greater redistribution percentage of the sums gambled and which imply a limited time lapse between the moment of gambling and collection time of

winnings. This is confirmed by the data which show how in the last few years, before a decreasing trend in gross gambling revenue of 'traditional' betting (e.g. Lotteries, Lotto and 'Superenalotto'), characterized by a more restricted pay-out, the expenditure in games has increased exponentially which provide for higher winning rates. More particularly, reference is here being made to the "Video Lotteries", which in 2012 registered a gross gambling revenue growth rate of 79.5 per cent, and which, together with the "New slot machines", represent 54.3 per cent of the gross gambling revenue in Italy (Calvosa, 2013). Among the new gambling typologies towards which the preferences of Italian consumers are shifting, the constant growth in total amount wagered and gross gambling revenue relating to the on line games is to be noted. In Italy too since 2006, the year in which legislation was introduced to regulate all gambling opportunities through the internet, the regulated real-money internet gambling industry has now developed.

To date, it not possible to correctly estimate the amount of gamblers in the Italian context, because of the lack of representative, valid and reliable data on the phenomenon. However, according to Serpelloni and Rimondo (2012), 54% out of the total population (about 60 millions) use to gamble. The estimation of problem gamblers ranges from 1.3% to 3.8%, while pathological ones seem to vary from 0.5 to 2.2% (Italian Minister of Health, 2012). Overall, 71% of Italian population perceives gambling as risky, but only 60% reports a clear disapproval about it. In detail, this gap is higher in gamblers because 61% of them (compared to 80% of non gamblers) recognizes gambling as a potential problem but only 42% disapprove. The typical profile of the Italian adult problem gambler is a person, mostly male and young, who engages in multi-gambling activity, does it frequently, spends great amount of money and has several financial problems due to debts. The Italian Population Survey on Alcohol and other Drugs (IPSAD) carried out in 2007-2008 by the National Research Centre (CNR) detected low problem gambling risk in 14.4% of individuals aged 15-64, moderate risk in 4.6% and pathological gambling in 0.8% . Recent epidemiological surveys on gambling carried out by the Department of anti-drug policies (DPA) on both Italian general population aged 18-64 (GPS) and student population aged 15-19 (SPS) demonstrated that problem gambling is becoming an emergent critical issue: more than 50% of adult general population gambled in the last year (mainly scratch cards, lotto and totocalcio) and were characterized by higher drug use than non gamblers; in addition, 7.2% of students were problem gamblers, while 3.2% were pathological gamblers, mainly boys.

Some institutional statistics on treatment for people with pathological gambling (GAP-DPA, 2012) show that 4687 pathological gamblers were treated in 2012. Treatment was mostly provided at Health services for Drug Addiction (in Italian, Ser.T) and socio-rehabilitative centers, especially in the northern Italian regions (60%).

Differently from what proposed by behavioural and cognitive models, the present study aims at exploring some common thematic domains which characterize stories of adult Italian problem gamblers, contributing to the area of quality research on problem and pathological gambling. Indeed, although there is effective treatment for problem gambling, relatively few people with gambling difficulties seek treatment (Cunningham, 2005). In this sense, a narrative based approach can consent to detect the emotional dimensions which shape the problem gambling experience and affect relational dynamics between individuals and their life context. Understanding motivations and expectations of problem gamblers can thus help to promote better psychological interventions addressed to them. This is without testing specific or well-defined problem gambling indicators, previously assumed by the researcher, but trying to formulate data-driven hypotheses by directly using participants' narratives collected via an online forum. In this regard, it is demonstrated that the use of storysharing is a practical and valuable method of data collection in qualitative research (Hayman, Wilkes, Jackson, & Halcomb, 2012). Specifically, online forums can serve as a qualitative data collection method (Im & Chee, 2006) in both educational (Tan & Seah, 2011), social (Horne & Wiggins, 2009; Steinfeldt et al., 2010) and health (Caputo, 2014; Hua, Alfi, & Talbot, 2013; Iredale, Mundy, & Hilgart, 2011) fields. In addition, online qualitative research methods allow researchers to sample minority groups that would otherwise be difficult to contact (Miller & Dickson, 2001), such as in the case of problem gamblers (Griffiths, 2010), and allow respondents to express their deeper feelings and be less inhibited than in a traditional interviewing environment (Hanna, Weinberg, Dant, & Berger, 2005). Wood and Griffiths (2007) argued that data collection on problem gamblers via online forums was advantageous because, despite online interviews tended to be shorter in length than verbal interviews, there was no difference in the type of response content. The Internet can thus be a rich and complex resource of textual material. Included in an addict's lived experiences are perceptions, beliefs and feelings, all of which are made sense of by the individual through the process of meaning making (Griffiths, 2010).

MATERIALS AND METHODS

Participants of the Study
Textual data consisting of problem gambling stories were used for the analysis. The stories were anonymously retrieved via the public online forum of Italian Gamblers Anonymous where people could post and share their experiences of compulsive gambling.

Gamblers Anonymous is a fellowship of men and women who share their experience, strength and hope with each other that they may solve their common problem and help others to recover from a gambling problem. The online forum was part of a website providing information and guidance about the fellowship support group and its programs for compulsive gamblers services. Although the diagnosis of pathological gambling exists (American Psychiatric Association, 2000), it will not be used to describe the participants in this study because a formal diagnosis is not provided. In addition, pathological gambling is not the specific focus of this research study because, as Volberg (2001) points out, "it is not necessary for an individual to achieve the full blown psychiatric disorder of pathological gambling to experience the problematic impact of their gambling" (p. 10). These stories were posted by 24 Italian adults, both men (n=21) and women (n=3). Most of them were members of Gamblers Anonymous and had attended or were still attending the twelve-step program[1].

In this sense, consistently with what proposed by Suurvali, Cordingley, Hodgins and Cunningham (2009), such in-depth qualitative study with problem gamblers who have recognized their difficulties with gambling and especially those who have tried to make a change can help to illuminate some of the reasons underlying non-acknowledgement and how it can be overcome.

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[1] The twelve-step program is a set of guiding principles (accepted by members as 'spiritual principles') outlining a course of action for recovery from addiction, compulsion, or other behavioral problems. Originally proposed by Alcoholics Anonymous (AA), this method was then also adapted to compulsive gambling.

Textual Data Analysis
Research framework
 Computer-aided content analysis was performed to detect meaningful contents emerging in stories of problem gambling. It was selected because of its use as both quantitative and qualitative method (Krippendorff, 2004) in order to explore the subjective component of problem gambling experience. Specifically, Emotional Text Analysis (AET) (Carli & Paniccia, 2002; Caputo, 2013, 2014) was adopted to get a representation of textual corpus contents through few and significant thematic domains, from the semantic variability of the text rather than from ad hoc categories established by the researcher. According to this research framework, emotions are not considered as individual responses but as shared categorization processes by which people symbolize the reality and are expressed through language. The basic hypothesis of AET relies on the "double reference" principle - both lexical and symbolic - implicitly connected to the language text (Fornari, 1979). This allows one to capture the emotional and symbolic dimensions *running through* the text, apart from its intentional structuring or cognitive sense. In this sense, with *polysemy*, we refer to the infinitive association of emotional meanings attributable to a word, when it is taken out of language context. Thus the words organizing the language sample can be divided into two large categories: *dense words,* with the maximum of polysemy, if taken alone, and the minimum of ambiguity in the sense of a contradictory, indefinite emotional configuration (i.e., words like "bomb" or "good"); *non-dense words*, with the maximum of sense ambiguity and thus with the minimum of polysemy (i.e., words like "to guess" or "anyway"). If dense words, which maintain a strong emotional meaning even when taken in isolation, are identified in a text, they can be grouped according to their co-occurrence in the same text segments, thus creating different symbolic and emotional repertoires. Indeed, the function of the co-occurrence of words within the same text segments is hypothesized to reduce the association of meanings attributable to each word, thus allowing a thematic domain to be constructed[2].

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[2] 1 As an example of co-occurrence interpretation, think about two different clusters of words regarding emotional response to immigration:
1) stranger - threat - terrorism
2) poverty - inclusion - solidarity

In this sense, the analysis of stories of problem gambling is not focused on their intentional structuring or ordered constituent parts, but rather on the common symbolic domains which shape problem gambling experiences throughout the text. Indeed, with AET the aim is to implement a process of deconstruction of the typical linguistic links of the dividing and asymmetrical way of the mind (operational function of language). This is in order to achieve the reconstruction of the most common chains of associations between dense words, based on a psychoanalytic method which hypothesizes an isomorphism between the co-occurrences statistical calculation and the associative processes characterizing the unconscious mode of thought (Carli & Paniccia, 2002). The interpretative process of each repertoire (that is labelled by the researcher) is based on using models of affective symbolization (Carli & Paniccia, 2002) - such as, inclusion/exclusion, power/dependence, trust/mistrust - to give sense to the words co-occurring in each cluster. The cluster interpretation is conducted through a clinical psychology method based on the analysis of the emotional polysemy of words, that is the capacity for a word to have multiple, potentially infinite related meanings and cross-references to symbolic universes. Within a psychological-psychoanalytical perspective, the study of etymology is an important tool for a deeper understanding of the emotional polysemic meaning of the clusters of words and can help to better take into account the associative process emerging from word co-occurrences. Therefore, this method proposes a bottom-up approach to textual data which progressively infers emotional experience of participants emerging directly from their narratives. This is without testing specific hypotheses or assumptions on participants' subjective experience but trying to formulate new hypotheses and to develop a wider framework that makes sense.

Analysis procedures

We can note that, in the first cluster, immigrant is emotionally regarded as "stranger" and thus as distant from one's own social system. The following words (threat, terrorism) suggest a feeling of danger and deep mistrust that is evoked by this distance: immigrant represents a powerful enemy from whom to defend oneself, within a conflicting relationship. On the other side, the second cluster relates immigration to "poverty", which deals with the lack of resources and social disadvantage. The following words (inclusion, solidarity) seem to better define the symbolisation of immigrant as a weak and powerlessness person, who needs for help and social belonging, mainly within an affiliative dynamic.

Consistently with this methodology, some statistical multidimensional techniques are carried out using text analysis software, in our case T-LAB (Lancia, 2004). The whole textual corpus was composed of 45 pages including 18,021 word occurrences (on average 751 words by story).

In more detail, the T-LAB tool we used for the analysis was the "Thematic analysis of elementary context" which transforms the textual corpus in a digital "presence-absence" matrix. To do that, each headline/subheading was considered as a segment of the corpus (namely, *an elementary context unit*) and represented a row of the matrix, while all the words present in the corpus represented the columns of the matrix.

The analysis procedure consists of the following steps:

a - construction of a data table context units x lexical units (up to 150,000 rows x 3,000 columns), with presence/absence values;

b - normalization and scaling of row vectors to unit length (Euclidean norm);

c - clustering of the context units (measure: cosine coefficient; method: bisecting K-means);

d - filing of the obtained partitions and, for each of them;

e - construction of a contingency table lexical units x clusters (n x k);

f - chi square test applied to all the intersections of the contingency table;

g - correspondence analysis of the contingency table lexical units x clusters.

This procedure therefore performs a type of co-occurrence analysis (steps a-b-c) and, subsequently, a type of comparative analysis (steps e-f-g). In particular, comparative analysis uses the categories of the "new variable" derived from the co-occurrence analysis (categories of the new variable = thematic clusters) to form the contingency table columns.

Cluster analysis allows the detection of some groupings of words co-occurring in the same text segments (the so-called *elementary context units*) with highest probability, as indicated by Chi-square test (χ^2). Clusters are labelled by the researcher based on the typical vocabulary and sentences of which they are composed of. Indeed, the interpretation relies on a more qualitative approach based on reading the texts to achieve an in-depth familiarity with the stories of problem gambling and on using models of affective symbolization (Carli & Paniccia, 2002) - such as the emotional dichotomies of inclusion/exclusion, power/dependence, trust/mistrust - to give sense to words/sentences of each thematic domain.

Then, correspondence analysis enables the exploration of the relationship between clusters in n-dimensional spaces, so as to detect the latent factors

which organize the main semantic oppositions in the textual corpus. The association between clusters and factors is expressed by relative contributions (squared cosines) of factors to each cluster which consent to judge the quality of representation of the latent dimensions detected. Only clusters offering the highest values, respectively on the positive and negative pole of each factor, are kept to explain the dimension (Greenacre, 2007; Lebart, Morineau, & Piron, 1995). Indeed, the interpretative analysis of each factor (labelled by the researcher) is based on the meaningful themes (clusters) that deal with different and opposite symbolic contents pertaining to the same issue (latent dimension).

RESULTS

Cluster Analysis has detected five thematic domains of which we report the percentage of context units, indicating their relevance in the overall textual corpus, and some of the most characteristic key-words (lemmas) and participants' statements (elementary context units) Table 1.

Table 1. *The most characteristic lemmas in thematic domains*

Cluster 1 *Guilt* (16.15%)		Cluster 2 *Obsession* (27.60%)		Cluster 3 *Disorder* (30.77%)		Cluster 4 *Risk taking* (15.89%)		Cluster 5 *Emotion regulation* (4.17%)	
Lemma	χ^2	Lemma	χ^2	Lemma	χ^2	Lemma	χ^2	Lemma	χ^2
Guilt	25.49	Slot machine	29.97	Gamblers Anonymous	53.75	Risk	53.98	Happy	95.67
Suicide	20.99	Family	22.62	Help	30.87	Gamble	22.50	Joy	59.63
Shame	20.90	Money	21.42	Association	30.18	Invest	21.40	Child	92.97
Courage	12.97	Lose	20.33	Group	23.99	Friend	17.73	Dad	39.55
Communicate	10.34	Work	17.72	Stop	17.65	Profit	14.95	Fear	17.16
Admit	10.34	Steal	10.60	Program	15.42	Colleague	10.57	Wedding	13.46
Relapse	10.34	Obsession	6.96	Sobriety	14.40	Relative	10.57	Choice	10.63
Disappear	10.34	Loan	5.39	Willpower	10.20	False	7.12	Pleasure	6.45
Destroy	8.85	Scratch and win	4.98	Compulsion	9.19	Desire	5.31	Angry	4.39
Bicker	7.20	Irritable	4.54	Disorder	9.01	Emotion	5.31	Start	4.39
Lie	5.45	Anxiety	4.54	Alcoholism	8.93	Time	4.11	Separation	4.39
Truth	5.16	Debt	3.91	Loneliness	6.54	Dream	3.88	Marry	4.24

Note. The threshold value of Chi-square test (χ^2) for each lemma is 3.84 (df = 1; p

= 0.05). Textual data were translated into English only for the purposes of the paper.

Thematic domains

Cluster 1: Guilt
This cluster includes 16.15% of elementary context units. It seems entirely based on the emotion of guilt. The person experiences many negative consequences as a result of gambling, such as feeling alone, depressed, ashamed and without dignity.
Because of gambling I lost everything, my wife, my house, my dignity, I felt ashamed.
Despite awareness of one's addiction, the person does not succeed in managing the problem of gambling and has not the courage of sharing and communicating it to others, because of the fear of being criticized and refused.
Guilt-feelings and fear of judgment were terrible when I realized the disaster I had committed because of my gambling addiction.
The person thus prefers keeping everything suppressed inside him/her. This dynamics contributes to maintain a double life, where the one's devalued self-concept can be protected and one's secret remains hidden to others.
I realized to have a problem and need help, however the situation got worse as time went by; I continued to keep everything suppressed inside of me, to try to hide because I felt afraid and ashamed and I did not have the courage of telling someone about it.
Gambling is perceived as a despicable behavior, something morally wrong, an evil. However, feeling guilty as the result of the transgression to an ideal self-concept allows the individual to expiate own sins and repair own faults without a direct confrontation with the external reality. In other words, guilt represents an inner emotional response which alleviates the negative effects of gambling and consents to maintain this behavior over time, thus avoiding any change.
I restarted gambling and getting into trouble. There was no communication with my wife and my children: evil had entered my family and it was all my fault, the evil was me. Gambling was stronger than me and I continued to gamble and to lie to my girlfriend [...] I had neither money nor the courage of telling her.

Cluster 2: Obsession

This cluster includes 27.60% of elementary context units. It mainly refers to obsession to gambling, regarded as a repeated and automatic behavior the person can't do without and does not succeed in controlling.

Only gambling was important to me, my obsession and compulsion to gamble, I did not succeed in stopping, I continued to gamble as long as I still had money.

Everything is allowed in order to continue gambling: steal, lie, fall into debt, even to the detriment of own family and work life.

My earnings were not enough anymore to satisfy my increasing need for gambling, so I started to steal money from the family account.

The strong relevance of financial aspects (i.e. money, loan, debt) and material forms of gambling (i.e. slot machine, scratch and win), seems to reveal a focus on concrete and operational aspects which can guarantee the sustainability of gambling.

I restarted to bet little amounts of money from my wage, in secret, then I progressively took out my first loan for gambling, a second loan in order to pay down the first one, a third loan and so on.

In other words, gambling represents a totally absorbing concern which creates a downward spiral of behaviors, such as "bet-lose-fall in debt", fantasizing about winning the next bet to recoup previous loses.

I was so obsessed and delirious, I thought that the slot machine should give me something back that belonged to me and I wanted at any cost.

Feelings of anxiety and irritability suggest the presence of high emotional arousal the person can't tolerate. The person perceives an urge, triggering a tendency to immediately enact and release one's emotions without reflecting on them, because gambling seems to functions as a sort of downer.

Anxiety is always my best friend, I am anxious for looking for money, gambling, lies: that's a nightmare.

Cluster 3: Disorder

This cluster includes 30.77% of elementary context units. It is mainly based on the perceived recognition and awareness of gambling as a problem which is needed to be solved.

I said to myself that it was the right time to ask for help. My good side allowed me to recognize that I had a problem and I needed help to come out from that mess. Gamblers seem to admit that gambling has taken over their lives in a complete and overwhelming way. In detail, gambling is

represented as a disorder, in terms of a compulsive addiction which can be treated as well as alcoholism.

The first thing to learn is to accept the fact that ours is a disorder and the only way to defeat it is to stop gambling at all.

Gamblers Anonymous association can provide the individual with necessary help and support to stop gambling and to attain a normal way of life, moreover thanks to sharing experiences and difficulties with other gamblers. This consents to overcome the individual experience of loneliness and to recover participation, feeling of belonging and solidarity within the group, thus avoiding social stigmatization.

At the meetings there are people who have had my same problem. They have experienced my same situation, feelings, loneliness.

The twelve-step program can be seen as an opportunity to gain sobriety and to increase sense of control on own compulsion. Gamblers thus achieve victory over the addiction, not by trying to win each battle by willpower, but by refusing to fight it and complying with the rules of the recovery program which can provide a cure from day to day.

They explained to me that ours is a disorder that you cannot eliminate, but you have all the resources to control it when you recognize it […] I have found the place where I can confide in and share my desperation.

I am more and more convinced that I would not have been able to control my disease without the association's help; thanks to the twelve-step program I can do improvements necessary to rehabilitation.

Cluster 4: Risk taking

This cluster includes 15.89% of elementary context units. Gambling is depicted as a risk taking behavior which consists in investing and easily making the best profit.

I used a gambling method that was based on investing money derived from previous winnings […] at first, I succeeded in managing gambling and making a profit from it, then this situation did not last long because of the mental mechanisms and expectations caused by my addiction

Indeed, the individual looks at gambling as something normal, a social behavior which is common to many other people, such as friends, colleagues, relatives.

I have always gambled in my life, I think that it is impossible not to gamble. Playing game is part of our culture since childhood, it is not dangerous or damaging, it gives pleasure and allows socialization among people.

The individual pays strong attention to the potential reward, which is the money to be won from the best bet. It is the excitement and the risk which motivates the individual and stimulates him/her to place a bet. With money on the line, the gambler obtains the action he/she craves. Gambling is a means to feel alive and to express own emotions, dreams, desires for making one's and loved ones' life better. However, the hopes and expectations raised by the gambling business are false hopes and represent a mythical panacea.

At first, I gambled only few times, then my bets got more and more frequent and my dreams got greater. How many things I would have done thanks to a big winning! Gifts for all my friends, solutions to all my relatives' problems, greater wealth for me, and also charity!

I was in my own world, a gilded and dreamy world, full of fantasy and false expectations.

Nevertheless, the individual does not realize the failure of own unrealistic expectations and continues gambling over time, without renouncing to the idea of future positive change. This risk-taking contributes to invest on gambling more and more, constantly looking for it as a source of excitement. *I still miss gambling, the green table, the sound of the ball in the roulette; I miss the emotions and excitement that only gamblers know so well.*

Cluster 5: Emotion regulation
This cluster includes 4.17% of elementary context units. It relates gambling to life context and events which may play a role in gambling initial development or next relapse.

I arrived in Italy just after the separation with my ex-wife, looking for distraction [...] After two months of hard work to send almost all my money to my children I started to feel vulnerable and fearful of gambling relapse.

Some contrasting emotions, both positive (i.e. happy, joy, pleasure) and negative ones (i.e. fear, angry), are reported which affect critical life moments, such as marriage, parenthood, death, marital separation or divorce. In detail, gambling seems to functions as an inner emotional regulator which allows the adaptation to changes with regard to these life events. For instance, to get married is a very exciting and happy time, but also an important decision which may be accompanied by high sense of responsibility and feeling of uncertainty.

There was only one year left until I got married [...] in a short time I became a compulsive gambling and started to squander all my savings that were to be spent on my wedding.

In this sense, gambling can works as a defensive strategy to solve potential inner conflicts. Indeed, more or less consciously, a contextualization of gambling behaviors is provided which mostly refers to the perceived difficulties in facing new situations and some choices which have characterized own past story.

I was shocked from the news of my father's unexpected death [...] nextly everything seemed to be back to normal but, unconsciously, suffering, regret and guilt feelings started to increasingly make me weak. I started to gamble by chance some months after that bad event.

This dynamics in turn contributes to increasing desensitization resulting in emotional detachment from own reference context and social relationships, because gambling progressively tends to become a way to escape problems, worries and responsibilities.

By the time, I did not have the power and enthusiasm to experience happy moments, such as wedding, baptisme, christmas, easter and summer holydays: all those moments were dull and flat for me.

I thought that it was only a game, I liked gambling, it made me feel good without problems or worries in my life.

Latent factors

Correspondence Analysis has detected three latent dimensions which organize the main semantic oppositions in the textual corpus, from the different position of clusters in the space, indicated by the relative contributions of the factorial axes to the formation of each cluster (Table 2). These three latent factors explain all of the data inertia ($R^2 = 100\%$).

Table 2. *Relative Contributions of Factors to Each Cluster*

	Factor 1	Factor 2	Factor 3	Factor 4
	Struggle against compulsion	*Ambivalent acceptance of gambling*	*Interpersonal detachment*	*Illusion of control*
Cluster 1	0% (-)	41.53% (+)	50.14% (+)	8.33% (+)

Guilt

Cluster 2
Obsession   70.88% (+)   7.26% (+)   13.07% (-)   8.69% (-)

Cluster 3
Disease   89.98% (-)   0.01% (-)   7.94% (-)   2.07% (-)

Cluster 4
Risk taking   8.68% (+)   53.98% (-)   0.69% (-)   36.65% (+)

Cluster 5
Emotion regulation   0.72% (+)   36.14% (-)   41.50% (+)   21.64% (-)

Note. The sign reported in brackets (-/+) indicates the specific factorial pole (negative/positive) associated with each cluster.

Struggle against compulsion (F1).
The first factor (35.60% of total inertia) mainly differentiates cluster 2 from cluster 3, respectively on the positive and the negative pole. It refers to compulsion in terms of eternal struggle between impulse to continue gambling and attempt to stop and regulate own behaviors. Different levels of awareness of gambling problems and individual ability to manage and control them are expressed. On the one hand (cluster 2), there is a downward spiral characterized by obsessive urge to gambling, as a repeated and automatic behavior the person can't do without and does not succeed in controlling. On the other hand (cluster 3), the individual gains higher awareness of gambling problem, regarded as a disorder needing treatment, and looks for external support which allows him/her to achieve greater control over one's compulsive urge to gamble.

Ambivalent acceptance of gambling (F2).
The second factor (26.62% of total inertia) opposes cluster 1 to clusters 4 and 5, respectively on the positive and the negative pole. It focuses on

different levels of acceptance of gambling behavior and on its perceived ambivalence in relation to own self-image. On the one hand (cluster 1), gambling is experienced as an unacceptable impulse, a morally despicable behavior, something wrong which is in conflict with one's ideal self-image and causes increasing guilt-feelings. On the other hand, gambling is mainly depicted as egosyntonic, something consistent with one's self-image and acceptable to own needs and goals: indeed, gambling is perceived as a profitable behavior which can determine positive changes in one's life (cluster 4) or as a way to alleviate potential negative emotions and thus escape problems, worries and responsibilities (cluster 5).

Interpersonal detachment (F3).
The third factor (22.96% of total inertia) differentiates clusters 1and 5 from cluster 2, respectively on the positive and the negative pole. It deals with interpersonal detachment characterizing gambling addiction in terms of progressive self-enclosure leading to negative consequences on social relationships. On the one hand, interpersonal detachment results from the fear of social stigma (clusters 1) or from the avoidance towards problems and changes in life (cluster 5) which determine an increasing perception of emotional isolation. On the other hand (cluster 2), interpersonal detachment relates to excessive self-centeredness due to obsession to gamble as a totally absorbing concern triggering disrespectful, disrupting and immoral behaviors (i.e. lie, steal, etc.) which in turn negatively affect family and work life.

Illusion of control (F4).
The fourth factor (14.82% of total inertia) mainly differentiates cluster 4 from cluster 5, respectively on the positive and the negative pole. It refers to illusion of control in terms of different functions of gambling for both mediating the relationship with external environment and achieving greater confidence in managing events. On the one hand (cluster 4), gambling is a means to invest and make the best profit, as a risk taking behavior which enables the individual to determine positive changes in one's life and thus to increase one's future development. On the other hand (cluster 5), gambling represents a sort of defensive strategy which allows the individual to escape one's responsibilities and worries related to possible unpleasant and critical life situations. In this sense, gambling may play two different roles in adapting to external environment and providing illusion of control: improving self-empowerment and individual potentialities or, on the

contrary, self-protecting from external dangers and avoiding negative consequences.

DISCUSSION

In previous studies, research mainly focused on exploring some risk factors for the development and maintenance of problem gambling based on demographic variables, cognitive or behavioral dimensions and comorbid disorders. Instead, this study deals with the main dimensions which emotionally shape gambling experience directly resulting from problem gamblers' narratives. In detail, five themes emerged from problem gambling stories which respectively refer to guilt, obsession, disease, risk taking and emotion regulation. In addition, four synthetic dimensions were detected which consent to account the variability of problem gambling experience based on: struggle against compulsion, ambivalent acceptance of gambling, interpersonal detachment and illusion of control.

With regard to the most significant factor emerging from problem gamblers' narratives (struggle against compulsion), previous research suggested that problem/pathological gambling can be conceptualized as an impulse-control disorder (American Psychiatric Association, 2000) because gamblers often evidence periods of intensive activity interrupted by intervals of remission (LaPlante, Nelson, LaBrie, & Shaffer, 2008) so that bet fluctuations can be considered as a risk factor (Blaszczynski & Nower, 2002). In this regard, as stated by Suurvali et al. (2009), the studies generally agreed on the kinds of obstacles gamblers report as standing between themselves and their efforts to seek help for gambling problems. This result is also linked to the ambivalent experience of gambling (we found on the second latent dimension) which refers to the difficulty of acknowledging/accepting the problem of gambling (Doiron, 2006; Rockloff & Schofield, 2004). Indeed, only a relatively small proportion of people with pathological or problem gambling seek professional help. The phenomenon is probably due to several factors such as: the desire among gamblers to handle their problems by themselves and/or the belief in their ability to do so; shame, secrecy, embarrassment, pride and fear of stigma; and an unwillingness to admit or a minimization of the problems associated with gambling (Evans & Delfabbro, 2005; Rockloff & Schofield, 2004).

In addition, our study highlights intepersonal detachment as another important dimension resulting from problem gamblers. As suggested in the literature, heavy gambling activities continuously subtract time from other

social and relational activities such as work, family and emotional relationships, often determining a breakup of the socio-relational sustainability. Indeed, under this condition, relationships might become very conflicting (Petry, 2003; Potenza, Kosten, & Rounsaville, 2001) because inability to control or quit gambling may cause an overall decline in social and family relationships (Potenza, Fiellin, Heninger, Rounsaville, & Mazure, 2002; Shaw, Forbush, Schlinder, Rosenman, & Black, 2007), as well as in financial (Grant, Schreiber, Odlaug, & Kim, 2010) and legal consciousness (Abbott & McKenna, 2005; Abbott, McKenna, & Giles, 2005; Williams, Royston, & Hagen, 2005).

With regard to the illusion of control, it is well known that gambling stimulates the brain areas that are responsible for analysis and predictive processes (van Holst, van den Brink, Veltman, & Goudriaan, 2010). In detail, when experiencing natural phenomena or social relationships, these processes help us elaborate behavioural rules that are useful in situations of uncertainty. In the case of aleatory phenomena typical of gambling, the cognitive effort of inferring rules is continuously frustrated by events, which are indeed governed by chance. These situations are sometimes referred to as the cognitive distortions (Clark, 2009; Toneatto, Blitz-Miller, Calderwood, Dragonetti, & Tsanos, 1997). Illusion of control means an expectancy of a personal success probability inappropriately higher than the objective probability would warrant. It is based on the idea that factors from skill situations introduced into chance situations cause individuals to feel inappropriately confident. Indeed, some studies demonstrated that subjects do not always distinguish chance from skill-determined events (Langer & Roth, 1975); besides, evaluations of randomly determined gambling outcomes are biased becasue the losers appear to use manipulated fluke events to explain away the outcome, whereas winners discount their significance (Gilovich & Douglas, 1986).

CONCLUSIONS

From the emotional experience shaping the problem gamblers' narratives, this research study allows the identification of some factors which can contribute to quality research on problem gambling and which can provide some useful suggestion for treatment. Despite our results are quite preliminary and need further investigation, they provide some insights on emotional components which are rarely accounted in psychological models

of gambling behaviours and might be examined in future studies based on a more complex and integrative perspective.

The analysis of gambling stories reveals that struggle against compulsion and ambivalent acceptance of gambling behaviours are emotional dimensions that have to be taken into account in problem gambling interventions. In more detail, gambling seems to functions as an inner emotional regulator which allows the adaptation to changes with regard to critical life events. A careful intervention should thus grasp the adaptive and evolutionary role of gambling behaviors, by contextualizing them in the individual life context and progressing step by step before eliminating them. Otherwise, acting exclusively on the problem behaviors may trigger some defensive responses which may threat the gamblers' compliance with next treatment. In addition, our study reveals that the feeling of guilt can represent an emotional strategy which allows the individual to expiate own sins and repair own faults, thus alleviating the negative effects of gambling and consenting to maintain this behavior over time. Cognitive-behavioral oriented interventions which are mainly addressed to refuse gambling as unacceptable impulse and morally despicable behavior in itself may contribute to make gamblers feel guilty without triggering a real change. In this sense, it would be preferable to focus on the perception of interpersonal detachment associated to gambling and its negative consequences on social relationships. Then, unrealistic expectations of winning and emotional need for control could be potential intervention areas with gamblers in order to favor a more realistic and competent self-image.

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