

## CHARACTERISTICS OF REGULAR GAMBLERS IN ITALY: THE ROLE OF CONTROL AND EMOTION REGULATION

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### Abstract

**Objective:** the main purpose of this study is to investigate the emotional and temperamental characteristics associated with gambling in Italy and to compare different groups of people on the basis of their risk of gambling: low-risk gamblers, problem gamblers, and pathological gamblers. Particularly, we examined the possible discriminant functions of perception of control, locus of control (whether internal or chance-based; that is, devoted to fate), and emotion-regulation strategies (cognitive reappraisal and expressive suppression).

**Method:** a total of 251 adult regular gamblers (142 males and 109 females) recruited from different betting and bingo halls completed self-report questionnaires on gambling behaviors, lack of control as temperamental dimension, locus of control and emotional regulation strategies.

**Results:** pathological gamblers, in comparison to low-risk gamblers, had lower levels of internal locus of control and cognitive reappraisal and higher levels of chance locus of control. Results from a discriminant function analysis have underlined the presence of two distinct functions: the former, named "unmanageable and stressful fate," describes an egosyntonic position to gambling; the latter, named "I'd like to resist," describes the egodystonic position to gambling.

**Conclusions:** findings suggest considering regular gamblers as a heterogeneous group with respect to their attitudes towards their addiction. This can have important implications for their treatment.

**Key words:** gambling, lack of control, locus of control, emotion regulation

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**Declaration of interest:** none

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### Gambling in Italy

Epidemiologic statistics on gamblers released by the Presidency of the Council of Ministers in 2012 affirmed that the estimation of the number of gamblers varies from 1.3% to 3.8% of the general population, while the estimation of pathological gamblers varies from 0.5% to 2.2% (VV. AA. 2012). In addition, the demographic characteristics of gamblers and their families establish the fact that players most at risk are more likely to be male than female (66% versus 55%), with a relational condition being that they are often divorced (5% versus 10%). Gamblers, in comparison to non-gamblers, have high levels of income and have at least one relative with a gambling problem (12.2% versus 4.4%). They also experience difficulties managing money (28% versus 14%) and are exposed to a greater risk of debt; in fact, gamblers, in comparison to non-gamblers, spend more money than they have (11% versus 2%), save less each month (1% versus 13%), and have borrowed money from funding agencies (28% versus 9%) or from other people (18% versus 2%).

The profile and distinctive characteristics of Italian adult problematic gamblers includes "poligambling," meaning they partake in various types of gambling games, devote a lot of time to the game, and play very frequently, spending large amounts of money. According to the Ministry of Health (VV. AA. 2012),

71% of the Italian population perceive gambling as a social risk, but only 60% disapprove of games in which one can win and lose money. By performing a similar analysis, stratifying within the two categories of players and non-players, it has emerged that 61% of players perceive gambling as risky and 42% disapprove of it. However, among non-gamblers, 80% believe that it is a risky behavior and 74% disapprove of it. Therefore, the greater the perception of risk, the greater the disapproval of this type of game. This is consistent with the expression of less frequent gambling behaviors.

### Gambling, control, and emotional regulation

Currently, the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) describes diagnostic criteria for gambling disorders, indicating that it is a persistent and recurrent problematic behavior that can lead to clinically significant distress and disruptive symptoms, including: a need to gamble with increasing amounts of money to achieve the desired excitement; a feeling of irritability when gambling is stopped; unsuccessful efforts to control or stop gambling; the need to gamble when feeling distressed; relying on others to resolve desperate financial situations; the tendency to lie to conceal the extent of involvement with gambling; and the disruption of

a relationship or job because of gambling (American Psychiatric Association 2013).

A prominent attribute of gamblers is that their behaviors do not seem rational from a utilitarian point of view. Accordingly, psychologists have stressed that gamblers do not assess their probabilities of winning rationally and that they develop illusory perceptions of control regarding the outcome of the game they are playing (Langer 1975, Pace et al. 2013, Pace et al. 2015). From this perspective, the present study sought to explore the issue of control and its relationship to emotional regulation strategies as potential characteristics of gamblers.

Psychological control is a heterogeneous construct that has been defined as the ability to actively maintain representations of goals and the means to achieve them (Duncan 2001). There is a wealth of evidence to suggest that departures from optimal control can play a role in emotional dysregulation (Barlow 2002, Di Maggio et al. 2013, Pace et al. 2014, Scimeca et al. 2013). Such conceptual issues have, in this sense, important implications for understanding the relationship between control and emotional disturbances. When control processes interact with emotional information, as commonly occurs in daily life, a second regulatory process is engaged, often labeled emotion regulation, a single term that encompasses several behavioral constructs that collectively describe systematic changes that occur when emotions are activated (Cole et al. 2004, Molina et al. 2014, Tang and Wu 2010).

Past studies have found that maladaptive emotion-regulation strategies play a role in the development and maintenance of psychopathology (Moore et al. 2008), possibly through conflicting with self-regulation goals during periods of emotional distress. This conflict may result in shifting attention away from longer term goals related to self-regulation—for instance, the goal of becoming healthier—and shifting attention toward decreasing emotional distress through seeking out immediate pleasure and relief—for instance, by smoking a cigarette or acting impulsively (Tice et al. 2001).

The frequency of emotional stimulation in daily life has motivated the examination of control in the context of emotional information, especially in the explanation of psychological pathologies. Indeed, the concept of emotion regulation features in many models of psychopathology, and it has been proposed that individuals who express poorly regulated emotions are also often characterized by loss of control due to failing emotion-focused behavioral strategies: in this sense, any form of perception of poor control, such as loss of control, inability to control, or an external locus of control, represents one of the major behavioral aspects of emotion regulation and has been identified as an important component of addictive processes (Williams et al. 2012).

Assuming that one's personality is generally stable over time, people may find it hard to control their gambling problems or other impulse-control related disorders; in this sense, individuals characterized by an external locus of control and related emotional dysregulation seem to be naturally more prone to gambling problems due to their nature and personality (Lightsey and Hulsey 2002). This is not to say that all impulsive people will develop gambling habits or problems, but they could if the right factors were in play at the right time. Inability to control impulses and delay gratification is the major impulsivity-related symptom of pathological gamblers (Clark et al. 2013, Schimmenti et al. 2014).

Failures of self-control represent a defining feature

of pathological gambling and are primarily associated with the desire for short-term gains despite associated long-term negative consequences (Baumeister 1997). According to literature (Ladouceur et al. 2002), gamblers misunderstand the very notion of the randomness of gambling: in other words, the experience of losing much more frequently than winning strengthens a gamblers' belief that what happens is determined largely by forces outside their own control (Clarke 2004). Moreover, they use gambling as a strategy to manage and regulate their emotions; in fact, gamblers are characterized by a certain degree of vulnerability and experience difficulty in entirely regulating their emotions (Ricketts and Macaskill 2004).

### *Research questions and hypotheses*

Despite the fact that gambling has often been associated singularly with the level of control, the locus of control and emotional regulation strategies, there are no studies on the relationship of these factors with gambling behaviors in the Italian context. In addition, no scientific study has been conducted to verify whether these variables may together represent a discriminant factor among the low-risk gamblers, problem gamblers, and pathological gamblers. On the basis of these considerations, the primary purpose of the current study was to investigate the emotional and temperamental characteristics associated with gambling in Italy and to compare different groups of people on the basis of their risk of gambling: low-risk gamblers, problem gamblers, and pathological gamblers. Particularly, we sought to investigate the possible discriminant functions of perception of control, locus of control (whether internal or chance-based; that is, devoted to fate), and emotion-regulation strategies. Gross (1998) individuated two emotion-regulation strategies, named by author cognitive reappraisal and expressive suppression. The former refers to attempts to think about the situation so as to alter its meaning and emotional impact; the latter refers to the attempts to inhibit or reduce ongoing emotion-expressive behavior. According to literature, we expected that individuals with a chance-based locus of control and with difficulties in cognitive reappraisal would show a high propensity for becoming pathological gamblers. Conversely, we expected that individuals with a perception of control linked to their actions and attitudes would belong to the low-risk gamblers' group.

## **Method**

### *Procedure*

The participants of the study were recruited in Betting or Bingo halls in three big cities of Italy. After obtaining their consent they were asked to complete a series of self-report questionnaires to measure gambling behavior, lack of control as temperamental dimension, locus of control and emotional regulation strategies. Data were collected between December 2013 and February 2014. Research procedures described in this article respected the ethical norms for the research and were approved by the Italian Psychology Association.

### *Participants*

From an initial group of 300 participants, we included in the study 251 individuals, who completed

all the questionnaires (142 males and 109 females) aged from 21 to 77 years ( $M = 33.02$ ,  $SD = 13.09$ ). 43% reported being married or cohabitants, while the 57% was single, divorced or separated. As for the title of the study, about half (53%) of the participants had a high school degree, a third (35%) of the participants had a middle school degree, and only a small proportion (12%) a bachelor's degree.

## Measures

**Gambling behavior.** We administered the South Oaks Gambling Screen (SOGS; Lesieur and Blume 1987), a 18 items' self-report questionnaire divided in two parts: the first part consisted of items (from 1 to 5) that give information on type of gambling (e.g. Played cards, Bet on horses, Played bingo for money, etc.) and on related issues (e.g. Have you ever quit gambling for a period or time?; What is the largest amount of money you have ever gambled on any one day?; Some people in your life has (or had) a gambling problem?); the second part consisted of items (from 6 to 18) addressing information on the frequency of some behaviors linked to gambling (e.g. When playing the game of chance and lose, how often return the next day to try to win the amount lost?; Have you ever gambled more than you wanted?). Scores on the SOGS are determined by adding up the number of questions which show an "at risk" response. The items of the first part are not counted for the score. Regarding the second part, some items can be scored more than once, so that the maximum score is 20. On the basis of gambling scores, we classified participants into three groups: (a) Low-risk gamblers (gambling score = 0-2;  $N = 88$ , 55 males, 33 females); (b) Problem gamblers (gambling score = 3-4;  $N = 63$ , 40 males, 23 females); and (c) Pathological gamblers (gambling scores > 5;  $N = 100$ , 47 males, 53 females).

**Lack of Control.** We administered the Adult Temperament Questionnaire-Short Form (ATQ-SF; Evans and Rothbart 2007), a self-report questionnaire that assesses general constructs underlying individual's temperament. The measure consisted of 77 items to which participants could answer on a 7-point Likert scale ranging from 1 (*extremely untrue*) to 7 (*extremely true*) and allowed obtaining information on four temperamental dimensions: Negative Affect (for our data  $\alpha = .78$ , e.g. I become easily frightened); Extraversion/Surgency (for our data  $\alpha = .72$ , e.g. I usually like to talk a lot); Orienting Sensitivity (for our data  $\alpha = .80$ , e.g. I tend to notice emotional aspects of paintings and pictures), Effortful Control (for our data  $\alpha = .77$ , e.g. Usually I have no trouble resisting my cravings for food drink, etc.). For the present study, we only used the last dimension, but in a reverse way, and we called it Lack of control.

**Locus of Control.** We administered the Multidimensional Locus of Control Scales (MLCS, Levenson 1973) a self-report questionnaire that assesses three dimensions of locus of control: Internal (for our data  $\alpha = .72$ , e.g. When I make plans, I am almost certain to make them work), Powerful Others (for our data  $\alpha = .63$ , e.g. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me) and Chance (for our data  $\alpha = .71$ , e.g. It is not wise for me to plan too far ahead because many things turn out to be a matter of good or bad luck). The measure consisted of 24 items to which participants could answer on a 6-point Likert scale ranging from 1 (*extremely untrue*) to 6 (*extremely true*). For the present study, we only used the dimensions Internal and Chance.

**Emotion Regulation.** We administered the Italian version (Balzarotti et al. 2010) of the Emotion Regulation Questionnaire (ERQ, Gross and John 2003), a self-report questionnaire that assesses two emotion regulation strategies: Cognitive Reappraisal (for our data  $\alpha = .82$ , e.g. When I am faced with a stressful situation, I make myself think about it in a way that helps me stay calm) and Expressive Suppression (for our data  $\alpha = .71$ , e.g. I keep my emotions to myself). The measure consisted of 10 items to which participants could answer on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

## Statistical analyses

We conducted preliminary analyses, including descriptive statistics on all the variables. To assess differences in lack of control, locus of control and emotional regulation as a function of gambling we conducted a univariate analysis of variance (ANOVA). We considered gambling behavior group (Low-risk gamblers versus Problem gamblers versus Pathological gamblers) as the fixed factor while the lack of control, locus of control and emotional regulation scores as the dependent variables. Post-hoc comparisons (Sheffe test), with alpha level set at  $p < .05$ , were carried out to examine group differences. In order to analyse whether gambling behaviour was related to lack of control, different types of locus of control and emotion-regulation strategies, we conducted a series of correlations in the pathological group. A discriminant function analysis was conducted to determine which variables best discriminated between the three groups (Low-risk gamblers versus Problem gamblers versus Pathological gamblers).

## Results

Descriptive statistics for all variables are presented in **table 1**.

**Table 1.** Descriptive statistics

Variables	<i>M</i>	<i>SD</i>	Observed range	Possible range
<i>Gambling behaviors</i>	6.13	5.75	0-18	0-20
<i>Lack of control</i>	4.46	.65	1-7	1-7
<i>Internal locus of control</i>	4.54	.76	1-6	1-6
<i>Chance locus of control</i>	4.02	1.08	1-6	1-6
<i>Cognitive reappraisal</i>	4.18	1.06	1-6	1-6
<i>Expressive suppression</i>	3.70	1.06	1-6	1-6

The ANOVA exploring group differences (Low-risk gamblers/Problem gamblers/Pathological gamblers) in relation to lack of control, locus of control and emotional regulation strategies (**table 2**), showed significant main effects of gambling groups for lack of control,  $F(2,248) = 12.87, p < .000$ , internal locus of control,  $F(2,248) = 12.44, p < .000$ , chance locus of control,  $F(2,248) = 41.71, p < .000$ , and cognitive reappraisal  $F(2,248) = 14.85, p < .000$ . Post hoc comparisons (Sheffe test), with alpha level set at  $p < .05$ , showed that the pathological gamblers had lower levels of internal locus of control and of cognitive reappraisal than problem gamblers and low-risk gamblers and higher levels of chance locus of control than problem gamblers and low-risk gamblers. Also the pathological gamblers and the problem gamblers had higher levels of lack of control than low-risk gamblers.

The correlations in the pathological group (**table 3**) showed that gambling was positively associated with chance locus of control and negatively with cognitive reappraisal.

From the discriminant function analysis conducted to determine the variables that enabled to differentiate between the three gambling groups emerged two significant functions [ $\chi^2(10) = 123.47, p < .000$ ;  $\chi^2(4) = 26.73, p < .000$ ]. The first function accounted for most of the variance (81%). Structure matrix (**table 4**) showed that Function 1 was principally explained by three variables: chance locus of control, low internal locus of control, and low cognitive reappraisal. This function was named "Unmanageable and stressful fate", since it fits very well with the idea that destiny is uncontrollable and related to the inability to regulate emotions; on the contrary, Function 2 was explained by two variables:

**Table 2.** Mean (and standard deviations) reported on lack of control, locus of control and emotion regulation strategies by participants in the three gambling groups

	Low-risk Gamblers (N = 88)	Problem Gamblers (N = 63)	Pathological Gamblers (N = 100)	F(2,248)
	M (SD)	M (SD)	M (SD)	
Lack of control	4.20 <sup>a</sup> (.68)	4.71 <sup>b</sup> (.65)	4.53 <sup>b</sup> (.54)	12.87***
Internal locus of control	4.76 <sup>a</sup> (.66)	4.70 <sup>a</sup> (.08)	4.26 <sup>b</sup> (.84)	12.44***
Chance locus of control	3.58 <sup>a</sup> (.78)	3.62 <sup>a</sup> (.99)	4.70 <sup>b</sup> (1.06)	41.71***
Cognitive reappraisal	4.26 <sup>a</sup> (.44)	4.19 <sup>a</sup> (.39)	3.90 <sup>b</sup> (.57)	14.85***
Expressive suppression	3.96 (.49)	3.83 (.48)	3.79 (.60)	2.47

Note: For each row, means with different apexes differ significantly from each other, with  $\alpha < .05$ .  
\*\*\*  $p < .000$

**Table 3.** Correlations between gambling and the other variables considered in the pathological gambling group

	Gambling
Lack of control	.13
Internal locus of control	.01
Chance locus of control	.43**
Cognitive reappraisal	-.29**
Expressive suppression	-.10

\*\*  $p < .001$

**Table 4.** Multiple discriminant function: structure matrix

Variables	Function 1 Unmanageable and stressful fate	Function 2 I'd like to resist
Chance locus of control	.83 <sup>a</sup>	-.20
Cognitive reappraisal	-.50 <sup>a</sup>	-.03
Internal locus of control	-.46 <sup>a</sup>	.03
Lack of control	.19	.90 <sup>a</sup>
Expressive suppression	-.17	-.32 <sup>a</sup>

<sup>a</sup> Largest absolute correlation between each variable and discriminant functions.

lack of control and low expressive suppression. This function was named “I’d like to resist”, since it seems to be linked to the failure of the plan to cope with craving and to mask feelings related.

An evaluation of the group centroids (table 5) showed that Function 1 best separates pathological gamblers from problem gamblers and low-risk gamblers, whereas Function 2 best differentiates problem gamblers from low-risk gamblers and pathological gamblers.

negatively associated with cognitive reappraisal, is in line with previous research. In a recent study, Williams and colleagues (2012) demonstrated that pathological gamblers reported a greater lack of emotional awareness compared to a healthy control group and also reported differences in access to effective emotion-regulation strategies compared to both comparison groups. In general, experimental findings showed that the reappraisal leads to decreases in both

**Table 5.** Multiple discriminant function: group centroids

	Function 1 Unmanageable and stressful fate	Function 2 I'd like to resist
Low-risk gamblers	-.66	-.31
Problem gamblers	-.41	.53
Pathological gamblers	.84	-.06

## Discussion

The present study sought to investigate the emotional and temperamental characteristics associated with gambling by comparing different groups of people on the basis of their risk of gambling: low-risk gamblers, problem gamblers, and pathological gamblers. Particularly, we aimed to investigate the possible discriminant functions of perception of control, locus of control (whether internal or chance-based; that is, devoted to fate), and emotion-regulation strategies (cognitive reappraisal and expressive suppression) among the different groups.

Results from preliminary analyses highlighted that pathological gamblers, in comparison to the problem and low-risk gamblers, had lower levels of internal locus of control and of cognitive reappraisal and higher levels of chance locus of control. Moreover, both problem and pathological gamblers showed higher levels of lack of control compared to low-risk gamblers. No differences emerged for expressive suppression.

A lack of self-control is one of the main problems for compulsive gamblers, and these people are often mocked for not being able to stop gambling. Their difficulty to stop was actually underlined in a recent neuropsychological study (Rømer Thomsen et al. 2013), which showed that compulsive gamblers’ lack of control may actually be caused by the communication between two specific brain regions known to contribute to our self-awareness and which are assumed to play a significant role in a person’s ability to control impulses. Authors have found that in compulsive gamblers, communication between the medial prefrontal cortex/gyrus cinguli anterior and the medial parietal cortex/gyrus cinguli posterior was impaired.

As far as the locus of control is concerned, results underlined a differentiation between low-risk gamblers and pathological gamblers: the former evidenced higher levels of internal locus of control, whereas the latter evidenced higher levels of chance locus of control. Literature (Thrasher et al. 2011) has shown that people who believe that results during gambling behaviors are caused by forces outside their control find their beliefs reinforced by the experience of losing more frequently than winning, and for this reason, are more prone to excessive gambling than people whose locus of control is substantially internal (Zhou et al. 2012).

Moreover, the fact that pathological gamblers showed the lowest level of cognitive reappraisal, as well as that pathological group gambling was

behavioral and subjective signs of negative emotion (Balzarotti et al. 2010). As is the case for each type of dependency, gambling makes it difficult for people look beyond immediate gratification to the longer term consequences of their actions. In a study conducted on smoking addiction, for example, brain scans showed how concentrating on long-term negative consequences alters brain activity to reduce craving (Buhle et al. 2014). The lack of cognitive reappraisal, that is, the incapability to mentally change the meaning of an event to lessen its emotional impact, could represent for gamblers a risk factor that leads them to maintain over time a maladaptive behavior.

Results derived from the discriminant function analysis have underlined the presence of two distinct functions, which have been named “Unmanageable and stressful fate” and “I’d like to resist.” The former defines individuals with low levels of cognitive reappraisal and low internal locus of control combined with a high level of chance locus of control. This function discriminates pathological gamblers from the other two groups. The question of where the control center of our behaviors resides is one of the most common themes in psychological research. Results from most of these studies have suggested that lacking the awareness to control one’s own thoughts and behaviors is associated with emotional dysregulation (Barlow 2002). Pathological gamblers, in this sense, seem to be characterized, more than other groups, by a lack of an emotional regulatory system—particularly cognitive reappraisal—associated with the perception that their lives are regulated by faith or circumstances. If an individual tends to accept that the capacity to regulate is not a function of the self, he or she may be less able to regulate his or her anxiety (Weems and Silverman 2006). Unlike results from previous studies (Clarke 2004) in which pathological gamblers demonstrated high levels of internal locus of control—as if they still had the belief that they were able to use strategies to win, the data of the present study highlight the fact that their personal characteristics include a general inability to manage their own lives, which equally generates an inability to manage their emotional reactions. The psychological state of a pathological gambler is, therefore, very different from that of a regular non-pathological player and is characterized by the ability to achieve a state that is similar to intoxication while gambling. This includes: modification of temporal perception, slowing down or blocking of time, an altered state of consciousness, complete absorption,

and hypnotic trance (Custer 1982). Those who fall under the second discriminant function—problem gamblers—seem to be quite different. The most striking characteristic of these persons is that they seem to still maintain an awareness of the destructiveness of gambling. However, this is also coupled with an awareness of the impossibility of refraining from it. This function has been named “I’d like to resist.” Compared to individuals belonging to other groups, problem gamblers seem to be characterized by a high level of awareness of their loss of control over their personal conduct and the inability to suppress what they express behaviorally and to mask their feelings.

Data from the discriminant function analysis seem to renew the issue of the nature of pathological gambling: several authors have indeed considered pathological gamblers as suffering from obsessive-compulsive traits (Frost et al. 2001) and that for this reason, they are characterized by egodystonic behaviors. This position perfectly describes the group of people defined as “I’d like to resist.” Conversely, other authors argue that gambling is essentially egosyntonic (Blaszczynski and Nower 2001); that is, gambling is consistent with the ego integrity of the individual and perceived to be appropriate. This position would describe people belonging to the group named “Unmanageable and stressful fate” for which the main problem would not be bound to their addiction, often not perceived, but rather to their way of thinking about the control they have over their lives. This lack of agreement on whether gambling is an egosyntonic or egodystonic disorder could even imply that gamblers may be heterogeneous with respect to their attitudes towards their addiction. Future lines of research would take into account the possibility that these two positions would correspond to two different times of gambling or if, conversely, they would have a completely different nature.

The results of this research pose interesting questions. Do problem gamblers evolve into pathological gamblers? In other words, can one predict the latter state by the presence of the former? Or, conversely, do temperamental characteristics protect some problem players from becoming pathological? This consideration leads to the need for a further longitudinal study on the relationship between psychological characteristics and trends at various levels of severity of gambling addiction.

Another aspect to clarify is the role of gender in gambling. The data showed a different male-female ratio in the groups of low-risk and problem gamblers, with a greater number of males than females. While it is interesting to note that when the gambling problems increase so as to become pathological, there is a growing balance between genders. Future research would explore whether the gender may be considered as a discriminating factor among the low-risk and problematic gamblers in comparison to the pathological gamblers, and the possible reasons why this does not happen in the pathological group.

Despite limitations due to the presence of only self-reported measures and the fact that the data were collected at a single point in time—both of which suggest rewarding avenues for further research—the main strength of the present study is its extension of the knowledge of those variables that can differentiate similar but not identical problematic gamblers.

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