Self-Medication and Pleasure Seeking as Dichotomous Motivations underlying Behavioral Disorders

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This study examines heterogeneity among consumers with behavioral disorders. In line with goal-systems theory, the authors argue that gambling and other substance dependencies are means of the same goal to self-medicators but competing goals to pure-pleasure seekers. We predict and find that pathological gamblers whose goal is self-medication are more likely to have correlated consumption disorders (e.g., other substance dependencies) than those whose goal is pure pleasure. Moreover, self-medicators demonstrate a positive correlation between the severity of gambling problems and having other substance dependencies; pleasure-seeking gamblers show a negative correlation for the same. Furthermore, because self-medicators can more easily substitute one problem consumption for another for the same goal, they are less likely to commit crimes to facilitate their gambling than pleasure seekers.
It has been demonstrated that normal consumer behaviors such as eating (Patton et al. 1999; Prentice 2001), shopping (O’Guinn and Faber 1989; Rook 1987), gambling (Blaszczynski and Nower 2002), surfing the Internet, and watching TV (Kubey and Csikszentmihalyi 2002) can be dysfunctional, and present negative or harmful effects when performed in the extreme. This dysfunctional consumption is often characterized as being persistent, recurrent, and possibly providing immediate gratification; it is also coupled with negative psychosocial consequences in the long run (Blaszczynski and Nower 2002; Marlatt et al. 1988).

By and large, consumer researchers have investigated dysfunctional behavior from an impulse control perspective, conceptualizing it as compulsive or impulsive behavior. The examination of compulsive behavior in consumer research started with isolated consumption domains (Faber et al. 1995; O’Guinn and Faber 1989) and extended to commonalities between different domains (Hirschman 1992). For instance, Faber and colleagues (1995) demonstrated that people who shopped compulsively were also more likely to be binge eaters. However, by regarding dysfunctional behavior as a consequence of failed self-control, earlier research overlooks other factors that could lead to dysfunctional behavior. As a result of this oversight, the potential heterogeneity of consumption disorders has not been studied fully.

In line with the idea that there might be different pathways leading to the development of pathological behavior (Blaszczynski and Nower 2002; Hirschman 1992), the current research proposes that consumption disorders developed via different pathways might have unique characteristics. In particular, we distinguish between two types of dysfunctional consumptions, based on primary motivations, namely, pure pleasure seeking versus self-
medication. We argue that pure pleasure seeking leads to narrowly focused consumption interests (e.g., less likelihood of substituting gambling for substance use) and more social complications (e.g., committing crime to facilitate gambling), whereas the goal of self-medicating leads to a wider variety of consumption alternatives (i.e., compulsive gamblers are more likely to have one or more other substance dependencies) but fewer social complications (e.g., lower rates of crime to facilitate gambling).

**THEORETICAL DEVELOPMENT**

In the current research, we adopt a psychiatric term—*pathological behavior*—to refer to dysfunctional or maladaptive consumption that leads to psychosocial consequences: personal, financial, professional, and legal (American Psychiatric Association 1994). In the literature, the terms *pathological*, *addictive*, and *compulsive* have often been used interchangeably, and although the three could point to subtly different constructs, it is beyond the scope of this research to distinguish between them (for relevant discussions, see Blaszczynski and Nower 2002). Hence, we use the term *pathological behavior* in our clinical data for consistency with the APA definition.

Various explanations for pathological consumption have been drawn from backgrounds as diverse as biology, neurology, psychology, and economics (e.g., Becker and Murphy 1988; Marlatt et al. 1988). Evidence supporting and refuting each conceptual model of pathological behavior has been found, giving rise to the argument that there could be multiple pathways leading to the development of pathological behaviors (Marlatt et al. 1988).

Hirschman (1992) integrates different theories of behavior disorders to create a conceptual model that categorizes illicit drug users as being either distressed or sociopathic,
depending on their motivations to consume. Distressed illicit drug users generally have a goal of self-medication, are typically depressed and stressed, and strive to escape from a negative emotional state by using consumption behaviors as a form of medication. Consumption these individuals thus becomes a means to achieving a higher-level or alternative end-state, be it a better mood or a (temporary) escape from distress.

In contrast, sociopathic illicit drug users are more driven by the immediate gratification they get from illicit drug. When these consumers find something (in this case, illicit drug) that provides the sought-after pleasure, they pursue it relentlessly (Hirschman 1992). Therefore, for pure pleasure seekers, the pleasure they derive from a form of compulsive consumption is more likely to be the exact end-state that they are striving for.

Different Motivations of Pathological Consumption and Implications

Extending the qualitative exploration of dual motivations in pathological consumption of illicit drug (Hirschman 1992), this study investigates whether there are distinguishing behavior characteristics associated with pathological consumers with different motivations. We draw on recent theoretical developments on goals and needs (Brendl, Markman, and Messner 2003; Kruglanski et al. 2002) to examine potential heterogeneity in pathological consumption.

If differing motivational forces—self-medication versus pleasure-seeking—underlie the same form of pathological behavior (e.g., gambling), then differing patterns of behavior would be expected. In line with goal-systems theory (Kruglanski et al. 2002), goals might be cognitively associated to their corresponding means of attainments, and beyond
cognitive linkage to their corresponding goals, means might be associated with other means. Different means to the same end would facilitate one another in terms of activation strength because they are interconnected (Kruglanski et al. 2002). Thus, for pathological gamblers whose goal is self-medication, different forms of pathological consumption (e.g., overdrinking, drug addiction, binge-eating, and pathological gambling) might be different means of achieving the same end-state (i.e., self-medication). The interconnections among different forms of consumption make them easily substitutable (Kruglanski et al. 2002). It can be further argued that if a pathological consumer of one behavior domain has a goal to self-medicate, he or she would be more likely to seek other forms of pathological consumption, as long as they satisfy the goal of self-medication. We expect a positive correlation (or substitutive relation) among different forms of compulsive consumption for pathological consumers whose goal is self-medication.

In contrast, we predict that pure pleasure-seeking consumers who have already developed a pathological preference for a particular consumption domain would only seek the specific reward derived from that particular domain. To this type of pathological consumers, the “pleasure” derived from the consumption of a particular product is the exact goal they are seeking. Extrapolating from the research findings about the inhibiting role of focal goals on other goals (Brendl et al. 2003), we propose that pure pleasure-seeking pathological consumers of one particular domain will devalue other forms of consumption that do not provide the same kind of hedonic experience or reward. Therefore, we expect a negative correlation (or inhibition relation) among different forms of compulsive consumption for pathological consumers whose goal is pure-pleasure seeking.
The substituting versus inhibiting relationship hypothesized for the two different types of pathological consumption can have important implications for investigations of comorbid consumption. *Comorbidity* is a term from psychiatry that refers to the situation wherein people with an existing behavior disorder are at a much higher risk of developing other disorders. In line with motivation theory, we argue that pathological consumers who develop behavioral disorders in one domain (e.g., shopping) to escape from reality are more likely to engage in other dysfunctional acts such as excessive alcohol consumption, binge eating, and taking illicit drugs as long as these complementary forms of consumption provide a similar self-medicating outcome. This condition contrasts with that of pathological consumers who develop their problem from the excitement or pleasure they derive from a singular consumption format (e.g., shopping). They will be single-minded in pursuing that product-specific outcome (e.g., the overwhelming pleasure of owning something) and be less likely to engage in other comorbid consumption.

Furthermore, we hypothesize that the facilitative versus inhibitory links among different forms of pathological consumption under different motivations will also predict how changes in motivational strength in one consumption domain affect the motivational strength in the other domains. For pathological consumers whose goal is self-medication, we predict that if the strength of the motivation in one consumption domain is greater, then the motivational strength will also be greater in the other domains. Conversely however, the increased strength of a domain-specific pure pleasure-seeking goal will decrease the individual’s propensity toward pathological behavior for another goal or need outside that domain. Thus, we would expect that for pure pleasure seekers, the more severe their
pathology in one particular domain, the lower the likelihood that they would engage in other forms of pathological consumption.

Last, the differences in motivation have implications for the costs incurred to engage in a particular pathological behavior. When the cost of engaging in one particular domain becomes extreme, then goal-systems theory would suggest that self-medicators are likely to shift to other consumption domains that satisfy the same goal but are less costly (see also Becker and Murphy 1988; Hirschman 1992). Thus, we argue that self-medicating pathological consumers are more likely to withdraw from a consumption domain when the cost of engaging in that domain becomes too high. For example, if pathological gamblers who gamble to self-medicate know that their behavior (gambling) is going to have potentially severe consequences, such as committing crime (and the threat of prison), they would be more likely to substitute their gambling behavior with other domains of consumption (e.g., drinking alcohol). In contrast, because the dependence on a product is domain-specific in nature, pure pleasure seekers would have fewer alternatives to satisfy that particular need. Consequently, they are more motivated to do what it takes to facilitate a particular compulsive consumption, even breach the law. In summary, we predict that motivation type will predict how likely pathological consumers are to commit a crime to facilitate their pathological behavior. The self-medication motivation will signal a reduced likelihood of committing crime to facilitate one particular pathological consumption behavior. It should be noted that we only make predictions about the likelihood to commit crime to carry out the specific consumption behavior, not the likelihood to commit crime in general.

**MAIN HYPOTHESES**
In this study, we develop and test our hypotheses within a particular consumption domain: gambling. Pathological gambling is defined as “persistent and recurrent maladaptive gambling behaviour,” which is characterized by an inability to control gambling behaviour, leading to significant deleterious psychosocial consequences (APA 1994). The assessment tool was the Diagnostic and Statistical Manual of Mental Disorders DSM-IV for Problem Gambling (see table 1), which was the accepted standard for the fieldwork of gambling counselling at the time when the clinical data were collected (Stinchfield 2002, p15). If gamblers replied “Yes” to five or more of the ten items, they would be diagnosed as having a severe problem or being pathological gamblers.

We present the argument that self-medicators can more easily substitute one form of pathological consumption for another than pure pleasure seekers in a specific behavioral setting—gambling—and hypothesize the following:

**H1:** Self-medicating pathological gamblers are more likely to have other substance dependencies than pure pleasure-seeking pathological gamblers.

Moreover, in line with the argument that the strength of similar goals and means will facilitate one another but the strength of competing goals will inhibit one another, we further hypothesize the following:

**H2:** Pathological gamblers with different motivations are likely to display different patterns of substance dependency as their gambling problems become more severe: Those who are motivated by pure pleasure seeking would be less likely to have consumption problems in other domains (e.g., substance dependency); the opposite will be true of self-medicating pathological gamblers.
Lastly, drawing on the proposition that self-medicating gamblers have more potential substitutes to achieve their desired end-state, we propose the following:

**H3**: Self-medicating pathological gamblers are less likely to conduct illegal acts to finance their gambling activities compared with pure pleasure seeking gamblers.

**EMPIRICAL RESULTS AND DISCUSSION**

**Description of the Data Set**

The data we used to test our predictions were collected from a center treating problem gamblers in the Gold Coast area, in Australia, between June 1993 and July 2001. The data include two parts: “Client Registration Details,” completed by clients, and “Assessment Details,” completed by counselors. Confidentiality was strictly assured. Out of the 1,235 cases that were registered at the clinic, 656 were diagnosed as pathological gamblers (with DSM scores $\geq 5$), and another 155 indicated some problems with gambling (with $0 < \text{DSM scores} < 5$), but were not qualitatively diagnosed as in a pathological state. In this research, pathological gamblers will be our focus of attention.

**Categorization of Gambling Motivations**

We categorized the pathological gamblers into two motivation types on the basis of their answers to the fifth question of the DSM items: Do you gamble as a way of escaping from problems or to relieve feelings of helplessness, guilt, anxiety, and depression? If they
answered “Yes” to this particular item, they were categorized as self-medicating gamblers (N = 369); if they answered “No,” they were regarded as pure pleasure-seeking gamblers (N = 287).

Key Variables

Dependent Variables. The probability of the two types of pathological gamblers engaging in compulsive consumption in other domains (dependent variable in H1 and H2) was derived from a measure asking whether pathological gamblers indicated that they had other substance dependency. The gamblers’ tendency to breach the law to facilitate their gambling behavior (dependent variable of H3) was predicted by item 8 on DSM scale: Have you been charged with illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling?

Demographic and Social Factors. Demographic and social information about the gamblers was also collected: age, gender, education level, income, years of gambling, and parents’ gambling information (i.e., whether either parent gambled). The year in which the gamblers visited the clinic for the first time was also recorded.

Types of Gamblers and Other Substance Dependency

We first tested whether the two types of pathological gamblers would differ in their probability of undertaking comorbid consumption, that is, their probability of having other substance dependencies. We predicted that pathological gamblers motivated by self-
medication were more likely to have other substance dependencies. This hypothesis was tested with a binary logistic regression. Whether participants had other substance dependencies (a dummy variable, Yes = 1, and No = 0) was the dependent variable, and types of compulsive gamblers (i.e., self-medicators versus pure pleasure seekers) was the independent variable. Demographic information including gender, income level, age, education level, parents’ gambling behavior, and years of gambling were included as covariates. Last, the year in which the client was admitted into the clinic was also included as a covariate.

Supporting hypothesis 1, results showed that the possibility of having other substance dependencies (comorbidity) was statistically predicted by the motivation to gamble. As predicted, self-medicating problem gamblers were more likely to have had other substance dependencies than pure pleasure-seeking gamblers (39% vs. 7%), \( (Wald = 22.28, \ p < .001) \).

In addition, the results also revealed that gender was a reliable predictor of the probability of having other substance dependencies (\( M_{female} = 22\% \) vs. \( M_{male} = 27\% \)), \( (Wald = 12.39; \ p < .05) \). Parental gambling was identified as a factor that predicted other substance dependence. Pathological gamblers with a parent who gambled were more likely to have other substance dependencies in general (\( M = 42\% \)) than those who did not have a gambling parent (\( M = 18\% \)), \( (Wald = 8.91, \ p < .05) \).

The results of the binary logistic regression provided support for our first hypothesis. The goal of self-medication implies higher levels of substitutability among different domains of pathological consumption. In contrast, the domain-specific pleasure-seeking goal derived from gambling inhibits substitution with other products. However, it could be argued that the difference between the two typologies may be driven by the difference in
the severity of gambling problems associated with these two types. That is, self-medicators could be more severely pathological than pure pleasure seekers, and this may explain the comorbid substitution with other substance dependencies.

To assess this alternative explanation and to test hypothesis 2, we ran two tests to examine how the types of motivation and the levels of severity of pathological consumption interact to predict comorbid consumption. The first examined only pathological gamblers (N = 656). We predict that self-medicators and pure pleasure seekers would present different substance abuse (comorbid) profiles as their problems with gambling escalated (as indicated by their DSM scores, i.e., the number of items pathological gamblers had indicated yes to the assessment items in table 1). Thus, we expect that the motivation factor will interact with the severity of gambling problems to predict whether pathological gamblers had substance dependency in other domains.

We used binary logistic regression to test the second hypothesis. The dependent variable was whether gamblers had other substance dependencies. In addition to the independent variables in the earlier test, the two new independent variables were the severity of the gambling problem and its interaction with the motivation types.

Results revealed a statistically significant correlation between the motivational factor ($Wald = 5.28, p < .05$) and the dependent variable: other substance dependencies. There was also a significant correlation between the severity of gambling problems and substance dependency ($Wald = 10.94, p < .001$). More importantly, we found a statistically significant interaction between the two independent variables ($Wald = 10.83, p < .001$), suggesting that how the severity of gambling problem correlated with the possibility of having substance dependency was qualified by the motivation types. Specifically, for pure pleasure-seeking
gamblers, our analyses revealed that as problems with gambling became more severe, the probability of other substance dependency would gradually decrease. For example, if pure pleasure-seeking gamblers indicated yes to five items, or their DSM = 5, then the probability of having other substance dependency would be 15%; however, it rapidly reduced to 0% when DSM = 9. Furthermore, a regression using only pure pleasure seekers indicated a significant negative correlation between the severity of gambling problem and substance dependency, N = 287, $B = -0.81$, Wald = 18.81, $p < .01$.

However, we found the opposite though insignificant pattern for pathological gamblers whose motivation was to self-medicate. Their possibility of having other substance dependencies was relatively greater as their gambling problem escalated (35% for those whose DSM = 5, and 47% for the group with DSM = 9). A separate regression for pure pleasure seekers indicated an insignificant positive correlation between the severity of gambling problems and the substance dependency (N = 369, $B = 0.082$, $p < .30$).

To test whether the same evolving patterns for the two motivational types would be observed when the severity of gambling problem changed qualitatively, that is from a nonpathological state to a pathological state for the two types of gamblers, we included in our analyses the 155 gamblers who had some problems with gambling but were not qualitatively categorized as pathological gamblers (i.e., $0 < $DSM-IV$ < 5$). We compared the consumption problems in other domains of the gamblers classified as nonpathological but who had some gambling problems with pathological gamblers ($DSM-IV \geq 5$) under two motivational paths. For pure pleasure-seeking gamblers who were not diagnosed as pathological gamblers, the possibility of having other substance dependencies was significantly greater than those who were pathological problem gamblers (24% vs. 7%), (N
For self-medicating gamblers, those who were not diagnosed as pathological gamblers indicated an insignificant lower likelihood of having other substance dependencies than pathological gamblers (31% vs. 39%), \((N = 449, B = .331, Wald = 1.57, p < .21)\). Figure 1 shows the patterns.

Likelihood of Committing Crime to Facilitate Gambling

Hypothesis 3 proposes that pathological gamblers seeking escape (self-medicators) would be less likely than pleasure seekers to commit a crime to facilitate their gambling behavior because they can more easily substitute their gambling for other behaviors. To test our third hypothesis, we ran a binary logistic regression in which having committed an illegal act to facilitate gambling was the dependent variable and gambler type was one of the covariates. Specifically, the dependent variable indicated whether gamblers had engaged in any illegal acts to finance their gambling. The other covariates were age, gender, income, years of gambling, education level, and information about parents’ gambling behavior.

Consistent with our prediction, the results revealed that self-medicating pathological gamblers were significantly less likely to commit illegal acts to facilitate their gambling than pleasure-seeking pathological gamblers (14% vs. 77%), \((Wald = 56, p < .001)\). In addition, income level \((Wald = 17, p < .05)\) and years of gambling \((Wald = 9, p < .05)\) were positively correlated with the possibility of illegal conduct. Last, females were less likely to conduct illegal acts than males (33% vs. 47%), \((Wald = 4.93, p < .05)\).

These results supported our third hypothesis—that self-medicating problem gamblers would be less likely to conduct illegal acts compared with pleasure-seeking pathological gamblers to facilitate gambling. We propose that pathological consumers who self-
medicate can satisfy this goal from a range of substitutable products, and gambling is merely one option in their mind set. In contrast, pleasure-seeking gamblers are seeking domain-specific rewards with few clear substitutes, and thus they are more likely to do whatever is required to seek the psychiatric outcomes associated with gambling.

Although our results did reveal that pathological gamblers whose motivation was to escape showed less likelihood to commit crime to gamble than the pure pleasure seekers, it did not mean that they were less likely to break the law in general. By reviewing whether the two types of gamblers had problems with legal issues in general as dependent variable, a logistic regression with the same set of predictors as in the last regression found no significant correlation between the motivation types and the dependent variable (\(Wald = .961, p > .30\)).

Predictors of Motivation Types

The differential behavior demonstrated by the two types of pathological gamblers suggests that the motivation for pathological consumption is an important factor in predicting the associated problems of pathological consumption in one domain. A natural question that follows would be what factors could lead to different types of consumption. Although there is no guiding literature on which to base a discussion or make hypotheses, it is of considerable interest to explore the social and demographic factors that may predict different gambler typologies. As explained earlier, personal information such as education, years of gambling at the present level, age, gender, and income were included in the data set, and we included these variables as covariates in our analyses to predict types of
gamblers. We ran a multinomial logistic regression to explore the statistically significant covariates of the gambler’s type. We found that age, income level, and whether the gamblers’ parents gambled were statistically reliable predictors of the gambler’s motivations ($Wald > 5.72, p < .05$). Moreover, the older a pathological gambler is and the higher his or her income level, the more likely he or she would be to have a goal of self-medication.

*Parents’ Gambling and Types of Gamblers.* Of particular interest was the finding that pathological gamblers whose parents were gamblers were more likely to be distressed or self-medicating pathological consumers ($Wald = 32.77, p < .001$). Our results seem to reconcile conflicting findings on the effect of parental influence. Several studies have concluded that parents play a significant role in the socialization of their children (Ward, Wackman, and Wartella 1977), including research specific to the clustered consumption activities of drinking and smoking (Chassin et al. 1986). For instance, it has been shown that children of alcoholics are four times more likely to develop alcoholism than children of nonalcoholics (Marlatt et al. 1988). However, the hereditary nature of alcoholism has only been found for the possibility of becoming a heavy drinker, not for loss of control or social complications (Marlatt et al. 1988). Our results suggest that parental behavior can influence children’s consumption by affecting their motivation to consume. This may subsequently influence the likelihood of the child committing an illegal act to facilitate his or her pathological consumption of the one product. In other words, parental influence on children’s consumption behavior affects motivational factors.
We conducted further logistic regressions to test this prediction. Regressions were run with and without motivation as a factor to test for a relationship with other substance dependencies (comorbidity). These results revealed that without any consideration of motivational factors (i.e., self-medication and pure pleasure seeking), parental gambling is associated with a significantly higher likelihood of having other substance dependencies ($Wald = 16.74, p < .001$). When we included motivation, the correlation between other substance dependencies and parental behavior was reduced but remained at a significant level ($Wald = 8.91, p < .01$; Sobel Test Statistic = 5.68, $p < .01$).

Using the likelihood of committing crimes as the dependent variable, we once again ran two logistic regressions with and without the motivational factor. When we did not include motivation, having one gambling parent indicated a lower likelihood of committing crime to facilitate gambling behavior among pathological gamblers ($Wald = 8.74, p < .01$); however, when motivation was considered, the correlation between the dependent variable and parental behavior was reduced to an insignificant level ($Wald = 1.20, p > .20$; Sobel Test Statistic = 7.40, $p < .001$). Thus, the results suggest that the influence of parental behavior on children’s consumption was at least partially mediated by the motivation factor.

**GENERAL DISCUSSION**

Previous researchers have suggested that there might be differing motivational pathways for pathological consumption (Blaszczynski and Nower 2002; Hirschman 1992). Drawing on the theory of goal systems (Kruglanski et al. 2002), we identify and test the implications
of differing motivations of pathological gamblers to reveal new complexities associated with dysfunctional consumption.

Our data revealed that the underlying motivations of pathological consumption are correlated to a pathological consumer’s potential problems in other consumption domains. Compared with pathological gamblers who gambled for pure pleasure, pathological gamblers escaping the painful reality of life by gambling were significantly more likely to have other substance dependencies. Moreover, when problems with gambling progressed from mild to pathological, the likelihood of having substance dependencies was decreased for pleasure-seeking gamblers. We observed the opposite pattern for pure pleasure-seeking gamblers.

The finding that pathological gamblers who gambled to escape were more likely to have other substance dependencies than pure pleasure-seeking pathological gamblers has implications for comorbidity. Prior consumer research has largely focused on the difference between normal consumers and compulsive consumers to examine the comorbidity issue (Faber et al. 1995). Our study suggests that there is significant heterogeneity even among pathological consumers across domains. This finding also has implications for the effect that the stimuli from one domain can affect consumption patterns in other domains (Li 2008; Van den Bergh, Dewitte, and Warlop 2008).

Moreover, supporting hypothesis 3, we found that self-medicators were less likely to commit illegal acts to facilitate their consumption behaviors when compared with other types of pathological gamblers. The result ensues because pathological consumers motivated by self-medication have substitutive means to satisfy their goal, and those who gamble for pure pleasure do not.
The evidence of dual (and possibly more) motivations in being a pathological gambler implies that there should be differing approaches to helping compulsive consumers, depending on their motivations. For instance, it might be more beneficial to treat the mood problem or mental ailment of a self-medicator or to counsel them on a less destructive path before asking them to quit gambling. In addition, it may be suggested that for self-medicators, pathological behavior in one domain might be a rationalized decision, if rationality is understood as a consistent plan to maximize utility over time (Becker and Murphy 1988). This further implies that the terms compulsive and failure to control may not accurately describe the pathology or the cause.

Moreover, our data revealed that restricting access to gambling products might encourage or force those who gamble for self-medication to substitute gambling with other products that satisfy the same goal. This prompts us to ask whether restricting gambling access (i.e., fewer products and less availability) would result in more serious problems in other areas for pathological gamblers who derive self-medication benefits from gambling.

As for the antecedent factors of the two types (i.e., self-medication and pure pleasure seeking), we found that self-medication seekers were more likely to have a parent who was also engaged in the same form of consumption (e.g., gambling). This finding helps explain why previous research on the hereditary nature of compulsive consumption has equivocal findings: On one hand, children of a compulsive consumer are more likely to develop the same problem; on the other, they are less likely to be involved in social complications or to have the most severe consequences because of the problem consumption. The children of a compulsive consumer are more likely to be distressed individuals and therefore more likely to undertake negative consumption to escape their distressed state. We suggest that the
products consumed by parents become the most salient means for their offspring to achieve their self-medication goal. However, as we show, the distressed type of compulsive consumers are less likely to be involved in social complications, and thus the hereditary nature of compulsive consumption will not lead to more severe problems in their consumption.

Limitations and Future Directions

Our analyses based on the clinical data were subjected to the following limitations. First, all tests were correlational, and we were not able to draw causal relationships. Second, the changes in the social and economical contexts, which were not coded in our data, might provide alternative explanations that we could not fully rule out. It is also possible that the responses are specific to one area and may not be generalized. Thus, replicating this research in other geographic areas and consumption environments would increase the generability of the research.

Moreover, our categorization of motivational types was based on one assessment item, and we made the assumption that if pathological consumers were not seeking self-medication from compulsive consumption, they would be driven by the pleasure or excitement they anticipated from the gambling activities. The validity of this assumption needs further research. There is also a need to investigate whether there are other types or subtypes of motivators for pathological consumption. The difficulty of studying the pathological consumption prevents us from doing further laboratory studies. As shown by Mick (1996), the dark side variables (e.g., drug addiction, gambling) can be confounded by respondents indicating socially desirable answers. The clinical data we use is probably the
best source to mitigate socially desirable responses. If there is a possibility that consumers disclose their real attitudes toward dark side variables, it is the time when they seek help from doctors and are being treated in the clinics. However, it is ethically impossible to change the standard treatment procedure by asking clients more questions (e.g., with more complex structures).
References


TABLE 1

ASSESSMENT OF PROBLEM GAMBLERS DSM-IV

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Is preoccupied with gambling</td>
</tr>
<tr>
<td>2</td>
<td>Needs to gamble with increasing amounts of money to achieve the desired excitement</td>
</tr>
<tr>
<td>3</td>
<td>Has repeated unsuccessful efforts to control, or stop gambling</td>
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<tr>
<td>4</td>
<td>Is restless or irritable when attempting to cut down or stop gambling</td>
</tr>
<tr>
<td>5</td>
<td>Gambles as a way of escaping from problems or to relieve feelings of helplessness, guilt, anxiety, depression</td>
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<tr>
<td>6</td>
<td>After losing money gambling, often returns to chase losses</td>
</tr>
<tr>
<td>7</td>
<td>Lies to family members, therapists or others to conceal the extent of problem gambling</td>
</tr>
<tr>
<td>8</td>
<td>Has been charged with illegal acts such as forgery, fraud, theft or embezzlement to finance gambling</td>
</tr>
<tr>
<td>9</td>
<td>Has jeopardized or lost significant relationship, job or educational or career opportunity because of gambling</td>
</tr>
<tr>
<td>10</td>
<td>Relies on others to provide money to relieve financial situations caused by gambling</td>
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FIGURE 1
THE PROBABILITY OF HAVING OTHER SUBSTANCE DEPENDENCY BY GAMBLER’S MOTIVATION AND MAGNITUDE OF GAMBLING PROBLEM

![Graph showing the probability of having other substance dependency by gambler's motivation and magnitude of gambling problem. The x-axis represents Not Pathological and Pathological, the y-axis represents Percentage. The graph indicates that Self-Medication has a higher percentage in Pathological cases compared to Not Pathological, while Pure-Pleasure Seeking shows the opposite trend.]