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## **Background**

The issue of gambling and dissociation has been the subject of considerable discussion and conjecture for some time. While there is a range of views, there is little consensus or clarity regarding dissociation in relation to gambling, its clinical significance and measurement.

The Australian Gaming Council (AGC) sought experts in the field of both gambling and dissociation to seek their views on what dissociation is, whether it has an influence on gambling behaviour generally and problem gambling in particular. Specifically, we asked:

- What is the relevance of the concept of dissociation to gambling and problem gambling?
- What does dissociation or “zoning out” in relation to gambling describe? Are these the same or are they different?
- What is the clinical significance of dissociation or “zoning out” with regard to gambling? Is it possible to measure the phenomena?
- What are the implications for:
  - the treatment of problem gamblers?
  - consumer education?
  - research?

Contributions were received from the following:

- Dr Clive Allcock
- Dr Paul Delfabbro
- Alicia Garcia and Professor Alex Blaszczynski
- Professor Mark Griffiths, Dr Richard Wood, Jonathan Parke & Adrian Parke
- Dr Durand Jacobs
- Tim McCorriston
- Rev Chester Carter
- Dr Brigitte Wanner, Professor Robert Ladouceur & Dr Frank Vitaro

We would like to thank all participants for their contributions to this Current Issues paper, including Dr Clive Allcock for providing an overview of the key elements emerging from participant discussions.

The AGC hopes that the paper will provide some guidance for counsellors, regulators, government and industry in the understanding of this area and inform the nature of future research.

**Cheryl Vardon**

Chief Executive Officer  
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## **Introduction and personal views – Dr Clive Allcock**

When approached by the Australian Gaming Council to contribute to and oversee the project of dissociation and its role or relevance to gambling I must confess to some mixed feelings. The challenge of again trying to clarify my own views whilst taking on an editorial approach to the views of others was appealing.

Yet I know from my long career in psychiatry that this topic of dissociation is controversial and linking into gambling was likely to be more so. My starting point in psychiatry was Jungian where concepts such as the unconscious and spin-offs like the idea of dissociation were almost mandatory. An evolution, if that is the correct word, into more behavioural and then cognitive behavioural fields followed and dissociation along with the unconscious became challenged concepts. A colleague, who strongly supports dissociation as a frequent and often recognised event, when told by me of the project on dissociation and gambling wryly observed that I believed in one but not the other! Readers may choose which he was referring to.

But I remain a sceptical although not atheistic observer of the debate. And debate it is. The opponents of the more extreme manifestation of dissociative identity disorder, would probably agree with the Piper and Merskey, who in two articles late in 2004 argued that Dissociative Identity Disorder (DID) is “culture bound and iatrogenic”, not linked to post traumatic experiences, and they believed the condition would ultimately “cease to be a ripple on the surface of the psychiatric universe”. (1.2)

Others such as Middleton counter by supporting DID and noting “debates regarding the validity of dissociative disorders need to be viewed in the context of society’s counter transference to trauma, in the context of health professionals feeling vulnerable to controversy in terms of their own experience of trauma.”(3)

With such debate at the extreme diagnostic end of dissociative problems I saw no reason not to feel some debate would occur at less intense levels where gambling, if linked to dissociation might be placed.

### **Planned tactics**

I decided to adopt a somewhat unusual step for an editor and that was that I would not read the contributors’ efforts as they came in until I had read widely and re-examined my own views. We put out requests for input late in 2004 and with some dropouts and some extensions of time views were in by early April. My reading and discussions flowed over this time. Next I would read the contributions and then try to summarise these - including an analysis of whether my views have changed at all.

Naturally when contributions arrive from many sources repetition and overlap will occur. I decided not to edit these out - I suspect many will (myself included) refer to the DSM criteria for example. The patient reader will have to bear with this as I felt it best to allow each contributor to develop their argument and stand unaltered.

## My views

I will commence as warned, with the DSM criteria but hopefully will move through these relatively quickly.

### 1. DSM IV (4)

The reason for starting there is the acceptance of the DSM widely as a guide. It is not a gold standard and is subject to self criticism as well as the criticism of others. Its own introduction cautions that specific diagnostic criteria are not meant “to be used in a cook book fashion” and indeed the diagnosis from DSMIV (or DSM IVR), is “not sufficient to establish the existence for legal purposes of a mental disorder”. In other words, tread carefully.

With that caveat, I will now examine the criteria for dissociative disorder.

For there to be a dissociative disorder “disruption in the usually integrated functions of consciousness, memory, identity or perceptions of the environment” are required.

These functions are inherently working together but to look at each separately for the sake of analysis, I do not think those who work with gamblers would argue they are not conscious. Clearly there may be debate around degrees of consciousness, or awareness, to muddy the waters with another term, but dissociation under DSM criteria seems to require a severe disruption to this function not seen in problem gamblers or even pathological gamblers. I would state at this point that I see the distinction between problem and pathological gamblers as somewhat artificially contrived and view gambling as a continuum along which people move during their gambling careers. Hereafter I will review to all as problem gamblers.

Memory is not an issue either. While people may have some poor recollection of time, exact amount of money, and some events that may have occurred while gambling (excluding any possible role alcohol may play) again these gaps are on a par with normal experiences in stressful or exciting environments. Can you remember every detail of the last air show you watched, all the types of planes and their manoeuvres? A trite example perhaps, but the parallel is there.

Some have argued identity is blurred but vague thoughts of feeling like another person do not gel with the clear cut identity change with amnesia that three of the five disorders under this label require. A punter having a weekend break from work may feel like a different person at the track, or in the club, and may indeed act that way. They may be cautious at work and more reckless at leisure, but this does not constitute a new identity.

Perception of the environment is a vague description in itself. Does this mean the whole environment is seen literally in a different or new way or just that it feels different? Gamblers of my clinical and social experience do know where they are and what they are doing, including problem gamblers.

And so, to me, the criteria are hard to match to gambling behaviours.

The diagnoses arising from the background factors can now be explored.

Dissociative Identity Disorder (DID) requiring “two or more distinct identities or personality states” as noted seems hard to apply. These identities are usually complete splits with no or minimal knowledge of each other. Perhaps of some appeal in the description for gamblers is the phrase “that recurrently take control of the individual’s behaviour” as many problem gamblers like to say they were/ are out of control as though something has taken over them. Perhaps it is a convenient excuse. My clinical experience of over one thousand gamblers leads me to feel that chasing is the most realistic explanation. A win is due and bets increase in size and / or frequency to try and achieve that end. It usually results in losses well beyond those intended but that is vastly different to being controlled by some new identity. Noting the description goes on to also require extensive inability to recall information my thinking at this time is that this diagnosis is clearly inappropriate.

Likewise Dissociative Amnesia and Dissociative Figure are completely inappropriate here because the severe disruptions to memory and behaviour required do not occur.

Depersonalisation Disorder, however, requires more contemplation.

The definition: - persistent or recurrent episodes of depersonalisation characterised by a feeling of detachment or estrangement from one’s self.

There is an endeavour to define this state - “The individual may feel like an automaton or as if he or she is living in a dream or a movie. There may be a sense of being an outside observer of one’s body or parts of one’s body. Various types of sensory anaesthesia, lack of affective responses and a sensation of lacking control of one’s actions, including speech, are often present”.

Two further points - reality testing is intact, which most gamblers would acknowledge, but secondly, noting “depersonalisation is a common experience and this diagnosis should only be made if the symptoms are sufficiently severe to cause marked distress or impairment in functioning”.

If one was to take the position for the sake of debate, that this diagnosis was relevant, what then is being said about the gambling?

The gambler depersonalises (dissociates) and so the gambling occurs with loss of control and automation process take over?

The need here is to be very careful in the way the question is asked. I alluded to the search for an excuse for one’s behaviour and it seems to me that if some gamblers were offered this as a possibility - “It’s not me, it’s my automaton status/illness doing this” they would understandably embrace the explanation. I am not saying at this point that their explanation would be wrong, merely that an understandable desire to move some or all of the responsibility for any calamities may create an inaccurate impression of the process occurring here.

To return to the definition - some gamblers do spontaneously say they feel “taken over” or “unable to explain what happens” to them in the gambling arena.

It has been my clinical experience that a steady detailed analysis of the decisions made at certain times of the gambling event show clearly the desire to win back losses or win more. Even these who say they play to “escape” or “forget problems”

will usually decline a suggestion that they hire a machine to use at an hourly rate but receive no wins.

Winning is an exciting and essential component that “is due”. If you ask the gambler how much they wish to win before they would stop forever, the usual response is blankness. There is never enough.

But the vast majority of gamblers do not report a full gamut of symptoms. They may feel automatic, but an outside observer? Rarely. The hand acts differently to the rest of the body? Almost never. Sensory anaesthesia (only through tiredness), is not commented on often and the only action “lost control of” appears to be the opening of the wallet, or the walking to the ATM (Automatic Teller Machine).

So clearly I have difficulty matching this dissociative disorder to gambling.

But if one broadens the dissociative definition from a complete break to some minor forms does this still make dissociation a relevant part of the gambling problem? To say all that is required is some type of trance-like state would merely make the state the same as missing a turn on your drive to an appointment because you were thinking of something else, or not thinking much at all. I will return to this in my next section, but my conclusions are that none of the dissociation disorders of DSM (including dissociation disorders not otherwise specified) lend themselves to a useful blending with the behaviours seen in problem gambling.

## 2. Other views of dissociation

Walker, Putman and Carlson (5) have, in my view, summarised this complex field very well. Putnam (1989) reported that historically, Janet first focused on dissociation viewing it as a discrete state and being relatively “rarely experienced by healthy individuals”. Others including William James disagreed, seeing dissociation as being continuous and common which as the above authors note is the usual view today.

Putnam and Carlson in their work have used the Dissociation Experiences Scale (DES) which is probably the most widely accepted scale in this confusing field. However they now challenge the modern view and revert back to the original Janet view.

Their case is that pathological dissociation exists as a rare and serious component of DID but non-pathological dissociation is the continuum form. Note, especially, the use of “non-pathological”; indeed normal dissociation. I would wonder whether if the findings are accepted, that it may not be better to drop “non-pathological” altogether and simply refer to some other label such as “altered state of awareness” but the importance of the distinction between pathological and non-pathological should not be lost.

Clearly the same uncertainties about the type of dissociation that may affect gambling are reflected in the sparse literature concerning the combination that has appeared to date.

More recently, Jacobs (6) a contributor to this volume, has seen dissociation as a significant factor in gambling. McGowan and Chamberlain (7) in their excellent book “Best Possible Odds” note gamblers’ abilities to continue gambling for long periods with a clear focus on the activity to the exclusion of other interests. While this could

be seen to be the desperation of the chase, they do comment on the partners of video gamblers saying this focus is greater than while the gambler is watching television. Again - non-pathological dissociative traits?

I will cite two studies referred to in the literature that have tried to test dissociation in gamblers. Kofoed, Morgan and Buchowksi (8) found gamblers more prone to dissociation than those with alcohol problems although video game player, who should in theory be more prone to dissociation, in fact were not. Grant and Kim (9) found no difference between pathological gamblers and controls.

My contribution to this debate will now follow with what I concede is at best a pilot study.

A preliminary interest in this topic led me two years ago to administer the DES to ten gamblers presenting for help for the first time. An eleventh refused, being a man of limited writing skills.

Of the ten I eliminate two scores, admittedly high. One was a lady constantly under the influence of alcohol and seeking help for both. The second was a paraplegic gentleman on high doses of legally prescribed Endone for spinal cord pain who stated that most of his day was spent in a haze. The average score on the eight was sixteen where a score of thirty is needed to confirm dissociation experiences.

When I started my reading for this task I decided to return to testing. All new gamblers presenting were asked to complete the form and none refused. There seemed no reason to eliminate anyone and the average score on this group of sixteen was nineteen. Looking at the work of Vam Ijzendoorn and Schuerge (10), who pooled significant numbers for a variety of conditions, these findings also do not support problem gamblers having significant dissociation. For normal subjects the mean was 11.57 (S.D = 10.63) and for students/adolescents the mean was 14.27 (S.D = 11.54). The normal subject sample size was 1578 and the student sample was 5676, both robust. Clearly my small sample would fall into the accepted range. The same paper noted Multiple Personality Disorder (now DID) to average 45.63, dissociative disorder unspecified 41.1, and dissociative disorder, not otherwise specified at 35.29.

It may be argued that to just present the DES does not mean that problem gamblers do not dissociate while gambling. However, given that the gamblers I saw were in full and recent activity and that the scale asked for percentages of time people experience dissociative states and gambling had occupied a fair percentage of time I would not yield to this argument.

A possible future study could ask participants to answer generally first and then repeat the DES relating only to gambling. This, in turn, could be criticised as creating a leading situation again with higher scores if achieved not truly reflecting the real situation.

## Conclusions

My views after this brief summary of the field and after my own reading, some of which is cited, as well as my small “pilot” study and clinical experience are as follows;

- 1) Gamblers do not dissociate to any pathological degree, if one wants to use the word dissociation at all.
- 2) A better term may be “altered state of awareness” which may contribute to but not drive or even be responsible for the gambling behaviour.

I will now move onto the contributions. We have asked for a wide range of opinions including some known to be for and some against the concept. Sadly two authorities on dissociation felt they could not contribute due to time and limited knowledge of gambling. Some interested in gambling also declined because of lack of knowledge or enthusiasm for dissociation.

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## Discussion papers

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### Dissociation and Problem Gambling: A Critical Overview

#### Introduction

Within the gambling literature, it is well documented that people very often lose control over their behaviour during gambling sessions. Not only do people spend far more money than they intend, but they also spend considerably longer at venues than they planned. Amongst the many theories advanced to explain these phenomena is the view that there is something about the process of gambling that compels people to act differently from how they might otherwise act in other circumstances. People report, or are described as, “not being themselves”, and appear driven by factors beyond their control (Carrig, Darbyshire, & Oster, 1999). Alternatively, there are reports of gamblers having lost touch with reality, or lost track of time because they were so involved or immersed in the activity that they were no longer able to consider the situation rationally, or to consider the consequences of their actions. Such observations have often led to the suggestion that many problem gamblers may experience a form of dissociation or mild insanity when they gamble. So intense the absorption in the game that all thoughts of personal wellbeing are laid to one side and gamblers seem no longer aware of other events going on around them. Behaviour is not so much governed by a process of critical evaluation or systematic decision-making, but possibly by deeper emotional or physiological processes (Jacobs, 1988).

The process of dissociation is central to Durand Jacobs' well known general theory of addictions (Jacobs, 1986, 1988; Kuley & Jacobs, 1988). According to this theory, gambling (amongst other addictions) arises as a result of prior exposure to trauma, abuse, or other distressing life events. Such experiences contribute to long-term feelings of inferiority, self-loathing or depression that are often difficult for many people to endure. In order to deal with this emotional pain, some vulnerable people are drawn to gambling because of its capacity to enhance mood-states, increase arousal, and block out painful memories. In the process of escaping from reality, some people come to assume altered states of identity. They feel powerful, invincible and the centre of attention. Reality recedes and is replaced by feelings of euphoria or bliss and the gambler comes to increasingly rely upon the activity as a means to shield himself or herself from problems. Harmful consequences arise, not only because the gambler needs to spend large amounts of money to maintain this artificial world, but also because these altered states often lead to reckless, excessive

and uncontrolled gambling that is not governed by concerns about external consequences or the gambler's long-term wellbeing. Thus, in Jacobs' theory and in its general use, dissociation is therefore interpreted broadly to refer to a loss of reality, or a detachment from one's usually worldly concerns. In effect, the gambler's sense of conscious awareness is altered as an avoidance response to psychological distress.

Jacobs' ideas are similar to those of Browne (1989) who suggests that dissociation may represent an extreme emotional reaction to unfavourable events. In the struggle to regain control in the face of mounting losses, people may slide into a state of emotional denial or detachment to shield themselves from the gravity of the events. In such emotional states, people may gamble wildly or inconsistently, or "go on tilt"; a phenomenological state in which they no longer appear to have any control over their behaviour, or care about the consequences. These states might be triggered by sudden, or unexpected losses, or by so-called "bad beats", which are statistically unlikely events that go against the gambler.

### Psychiatric Definition of Dissociation

How well does this broad definition coincide with the formal definition of dissociation? In general, this conceptualization of dissociation captures many of the elements typically observed in dissociative disorders. Dissociation in the formal sense refers, as the name implies, to a discontinuity between elements of thought and action that are usually connected. For example, it is usual for links to exist between thoughts, feelings and actions. When people do things, they usually do so for a reason that they can understand, even if the reason is boredom. Emotions, even negative ones, are usually identified with events or thoughts. Dissociation occurs when people are no longer able to exert control over their actions, or see themselves as playing a conscious role in how they are feeling, or in what they are doing. Someone might feel compelled to do something and be unable to prevent themselves from stopping, or feel that they are compelled to undertake the action (Dell, 2001).

Common processes in dissociative disorders include: *depersonalization*, *derealisation*, *identity confusion* and *identity alteration*. *Depersonalisation* refers to a feeling of being physically or psychologically detached from one's actions, as if the actions are being performed by someone else. The person feels like a passenger in their own body. *Derealisation* is similar and refers to a reduction in the clarity of the reality around them. The world might appear to be hazy or detached as if one were an observer viewing the action in a film. *Identity confusion and alteration* occur when people enter states where they adopt different feelings, attitudes, and characteristics. In effect, they forget how they usually feel and behave in ordinary circumstances and come to believe they are someone else with different values and abilities.

Typical items used in scales to measure dissociation include:

- I feel like I was outside my body
- I did not feel like my real self
- I felt that things weren't real
- I felt like I was in a dream or film
- I felt that someone else was controlling my actions
- My mind felt blank
- I completely lost track of time
- I could not remember what I did

All of these items appear consistent with some of the experiences reported by some problem gamblers and suggests that dissociation may occur during gambling sessions. However, whether one would be able to describe gamblers as experiencing a genuine dissociative disorder remains unclear. Such experiences would need to occur frequently and outside the gambling venue. Moreover, one would need to differentiate pathological behaviour or experiences from non-pathological experiences not necessarily unique to gambling. For example, it is highly likely that any person engaged in an absorbing activity for a long period may also experience some of the symptoms described above (e.g., people in combat situations, engaged in high pressure sporting events, or performing on stage). Furthermore, any activity that is absorbing or interesting will lead to a reduced sense of subjective time because temporal processing is based on the allocation of cognitive resources between one's internal clock and other activities. The less stimulating an environment, the more temporal processing that will occur, and therefore the greater the sense of subjective duration. Accordingly, it may only be because long periods of gambling often lead to undesirable consequences that dissociative-like experiences reported by gamblers come to assume a more sinister character.

For these reasons, in order to establish the construct validity of dissociation in gambling it would be useful to examine the relationship between gamblers' self-reported experiences of dissociation and their experiences of impaired control. On how many occasions when they spent more time or money than they intended, did they experience dissociative symptoms? How often does their inability to resist the urge to continue gambling coincide with other symptoms usually prevalent in these disorders? Another issue of interest would be to determine to what extent the reported symptoms are a reflection of within-session experience as opposed to unconscious rationalizations for behaviour. It might be easy for gamblers in the cold hard light of day to claim that their behaviour was out of character or driven by factors beyond their control without any genuine experience of dissociation.

Nevertheless, it appears reasonably clear that dissociation is a conceptually useful concept and could be differentiated from other related terms such as avoidant coping. Several recent studies (e.g., Di Dio & Ong, 1997; Scannell, Quirk, Smith, Maddern, & Dickerson, 2000) have shown that poker machine gambling is often used as a way to escape from negative mood states. Dissociation in Jacobs' theory would also appear to fulfill much the same purpose. However, it would appear clear that there are many differences. Avoidant or emotion-based coping could be undertaken without alterations in identity or any of the other variations in conscious processing common to dissociative experiences.

From a regulatory and policy perspective, dissociative experiences have often been discussed in relation to people's inability to terminate gambling sessions. The loss of time often thought to accompany these experiences has often led to suggestions for modifications to gaming venues to encourage greater reality-testing. These include:

- The addition of clocks on walls in venues
- Increases in lighting
- Windows with outside views
- Breaks in machine operation
- Pop-up reminders on machines
- Requirements that larger wins be paid outside the gaming floor

Interviews undertaken with problem gamblers in South Australia suggest that each of these interventions would be potentially useful (Delfabbro & Panozzo, 2004). Having to leave the gaming floor, or the venue itself to obtain more money would give gamblers the opportunity to reconsider their decisions. Even if some of these interventions are potentially irritating to gamblers (Schellinck & Schrans, 2002), they may nonetheless serve to reduce dissociative symptoms or give rise to a greater objective focus on behaviour.

Future research could therefore usefully examine the extent to which modified gambling environments are successful in reducing dissociative symptoms among gamblers who are prone to these experiences. Alternatively, these experiences might be investigated more experimentally using a situational awareness model. People gambling in modified environments would be asked to indicate how long they think they have been gambling, how much they have won or loss, their largest win or loss, and how much control they feel they have over their behaviour.

## **Conclusion**

In conclusion, there is a reasonable body of anecdotal and research evidence to suggest that dissociative-like symptoms are experienced by some problem gamblers. However, it would be possibly unwise at this point in time to argue that problem gambling is a form of dissociative disorder. Symptoms of this type may be common to many activities that are absorbing or emotionally challenging, and not necessarily pathological or unhealthy. Despite this, it would be worthwhile to conduct further research concerning the links between dissociative symptoms and other independent measures of impaired control, and to ascertain the efficacy of venue modifications designed to encourage greater reality-testing or objective appraisals of behaviour.

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## **Introduction**

Clinical and research findings suggest that dissociative phenomena are often found in pathological gamblers. Gambling is considered to represent a form of mood/arousal regulation, an escape from emotional distress, and/or a way of coping with problems. However, while there are some preliminary studies that support the hypothesis that dissociation plays a central role in the maintenance and persistence of problem gambling, there are inherent definitional and measurement problems that plague the research thereby precluding a definitive conclusion to be reached. This brief summary addresses the conceptual complexity of the meaning of the term and the empirical data on the association between problem gambling and dissociation as measured by the Jacobs (1986) scale and the Dissociative Experiences Scale.

## **Conceptualization**

The term dissociation was coined by Pierre Janet (i.e., 1889; 1907; 1920), and means the opposite of association. The concept of dissociation refers to “the lack of normal integration of thoughts, feelings and experiences into the stream of consciousness and memory” (Bernstein & Putnam, 1986, P. 727). It involves aberrant perceptions of time and the environment, as well as disruptions and alteration in memory, consciousness, and identity. The dissociative disturbances may be “sudden or gradual, transient or chronic” (DSM-IV, 1994, p. 477). Until recently, the recognition of dissociative experiences in the general population, and/or of dissociative symptoms in general psychiatric populations were relatively rare. It is only in the past few years that the significant role of dissociative experiences has begun to be properly acknowledged and empirically investigated in the area of pathological gambling. However, there is still not clear consensus in the field on the nature of dissociation and its components, determinants, psychological correlates, and potential modes of modification.

For example, dissociation has been variously conceptualized as an enduring personality trait or disposition (i.e., dissociative tendencies; see Kwapil, Wrobel, & Pope, 2002), a transient stress-related state (Noyes, & Kletti, 1977), the long-lasting effect of trauma (Warshaw, Fierman, Pratt, Hunt, Yonkers, Massion, & Keller, 1993), an involuntary (i.e., automatic) avoidance strategy which defend consciousness from awareness of traumatic memories (i.e., Spiegel, Hunt, & Dondershine, 1988), a maladaptive coping response to stress, a psychobiological defense against negative stimuli, and/or internally oriented coping mechanism (Irwin, 1995; 1998; Lynn, Pintar, & Rhue, 1997), a fundamental defense against shame (Evans, 1988; Fisher, 1988), a

therapeutic tool (Fischer, 1988), a chronic residual effect of long-term substance abuse (Wenzel, Bernstein, Handelsman, Rinaldi, Ruggiero, & Higgins, 1996), the predominant disturbance of a distinct dissociative disorder (i.e., Depersonalization Disorder; see Simeon, Gross, Guralnik, Stein, Schmeidler, & Hollander, 1997), and/or a symptom linked to psychosomatic complaints (Engel, Walker, & Katon, 1996), Schizotypy personality dimension (Irwin, 2001), and several psychological disorders, such as Post-traumatic Stress Disorder (Bremner, Southwick, Brett, Fontana, Rosenheck, & Charney, 1992), Alexithymia (Elzinga, Bermond, & van Dyck, 2002), Borderline Personality Disorder (Brodsky, Cloitre, & Dulit, 1995), Eating Disorders (Groth-Marnat, & Michel, 2000), Substance Dependence Disorders (Ellason, Ross, Sainton, & Mayran, 1996), and Pathological Gambling (Brown, 1999b; Diskin & Hodgins, 1999; 2001). Indeed, the concept of dissociation has been implicated in so widely diverse phenomena that it is in danger of becoming meaningless (Frankel, 1996).

Dissociative experiences are conceptualized as existing on a continuum, ranging from relatively benign, common phenomena (e.g. losing track of time, 'highway hypnosis') to more pathological dissociative experiences (e.g. loss of identity) (Berstein, & Putnam, 1986; Ross, Joshie, & Currie, 1991; Steinberg, 1991). Dissociation per se is not to be considered inherently pathological, and the DSM-IV recommends the use of a cross-cultural perspective in the diagnosis of Dissociative Disorders, because "dissociative states are a common and accepted expression of cultural activities or religious experience in many societies" (p. 477). According to the view of dissociation as a continuum, the dissociative disorders do not comprise any single symptom or set of symptoms that qualitatively differentiates 'normal' from 'abnormal' experiences. It is the quantitative difference in terms of frequency, extent, and/or intensity of dissociative symptoms displayed by the person, as well as the resulting level of distress and functional impairment, that leads to a diagnosis of dissociative disorder (i.e., Kihlstrom, Glisky, & Angiulo, 1994). Therefore, even dissociative aspects usually regarded as relatively more 'serious' than others, such as depersonalization, could in turn be seen as a rather common experience that spans from the normal to the pathological (Steinberg, 1991).

By comparison, other authors would distinguish two conceptually and statistically distinct types of dissociation (i.e., Elzinga, Bermond, & Dyck, 2002; Irwin, 1999; Waller, Putnam, & Carlson, 1996). One type consists of 'non-pathological' experiences, such as psychological absorption (i.e., 'total' attention in a current activity) (Tellegen & Atkinson, 1974), and the other type involves seemingly 'pathological' experiences such as depersonalization and derealization (Steinberg, 1995; Waller et al., 1996).

The categorical perspective is sometimes presented as a combination of categorical and dimensional views. For example, Elzinga and colleagues (2002) make a distinction between 'trait-like' and 'trauma-related' types of dissociation while Waller, Putnam, and Carlson (1996) have identified two distinct types of dissociation through taxometric analysis; namely a pathological class-like, and a non-pathological trait-like kind of dissociation. Waller and Ross (1997) argued that data from twin studies indicate that pathological dissociation does not seem to be hereditary. However, it is significantly correlated to environmental stressors such as a history of childhood (i.e., physical and/or emotional abuse and/or neglect, and sexual abuse) trauma. Trauma-related type of dissociation may be more likely found within a pathological spectrum, involving higher frequency, severity, and/or a broader range of dissociative

experiences (i.e., amnesia, identity fragmentation). This type of clinical dissociation may be unrelated to fantasy proneness (Elzinga et al., 2002).

In contrast, the non-pathological, stable, dispositional type of dissociation such as psychological absorption, would constitute a continuum, and have a normal distribution in the general population. This 'trait-like' dissociation would be related to fantasy proneness, imaginative involvement, openness to experience, hypnotisability, and related constructs (i.e., see Kihlstrom, Gliskey, & Angiulo, 1994; Rauschenberg, & Lynn, 1995; Merckelbach, Muris, & Rassin, 1999; Nadon, Hoyt, Register, & Kihlstrom, 1991; Ijzendoorn, & Schuengel, 1996). Absorption appears to have a significant genetic component, and it may be 50% heritable (Tellegen, Lykken, Bouchard, Wilcox, Segal, & Rich, 1988), although this percentage could be lower in male populations (Finkel & McGue, 1997). This type of dissociation would tend to occur within a non-pathological range, and may not be necessarily related to traumatic experiences. For example, absorption has been reported to be uncorrelated to childhood trauma (i.e., Irwin, 1999; Kroll, Fiszdon, & Crosby, 1996).

Consequently, advocates of the categorical view have argued that the traumatogenic model of dissociative disorders needs to be reformulated, in the sense that childhood trauma may contribute to the development of pathological dissociative processes in particular, rather than of general dissociative processes (i.e., Irwin, 1999). However, the empirical evidence on the relationship between absorption and trauma remains controversial. For instance, although some authors have found that absorption appears to be unrelated to childhood trauma (i.e., Irwin, 1999; Kroll, Fiszdon, & Crosby, 1996), other authors have reported a significant relationship between absorption and trauma over the life span (i.e., Vanderlinden, Van Dyck, Vandereycken, & Vertommen, 1993). At the time being, although this hypothesized dissociative typology may be supported by some empirical evidence (i.e., Putnam, Carlson, Ross, Anderson, Clark, Torem, Bowman, Coons, Chu, Dill, Lowenstein, & Braun, 1996); it remains an empirical question in need of further empirical investigation.

## **Prevalence and Distribution**

Prevalence estimates vary because of the lack of current agreement regarding the threshold cut-off point between 'normal' and 'abnormal' dissociation.

Although mild forms of dissociation (e.g., losing track of time) seem to be relatively common occurrences, the distribution of dissociation tends to be strongly skewed in the general population. For example, Ross, Joshi, & Currie (1990) reported that the majority of adult participants from a stratified random Canadian sample scored 10 or less on the DES (e.g., experiencing dissociation 10% of the time), nearly 12.8% of the adult sample scored above 20, and 5% scored above 30. Studies of college students yield higher estimates. For example, 15.4% scored over 20 (see Ross, Ryan, Anderson, Ross, & Hardy, 1989; Ross, Ryan, Voight, & Eide, 1991), 19% scored over 20, and 6% scored over 30 (Angiulo & Kihlstrom, 1993). These figures have been replicated on a number of large surveys. Therefore, empirical findings suggest that in the general population, more than one person out of 10 has tendencies toward potentially pathological dissociation.

In addition, findings have indicated that the prevalence of dissociative experiences among psychiatric populations is relatively large. For instance, about 80% of a large series of general psychiatric inpatients presenting a number of diagnoses have

reported some form of dissociative experiences (e.g. depersonalization) (Brauer, Harrow & Tucker, 1970), and up to 26% had dissociative disorders (e.g., 5% multiple personality disorder, and 21% atypical dissociative disorder; Ross, Anderson, Fleisher, et al., 1991). Pathological dissociation has been found to be comorbid with PTSD, anxiety disorder, depression, personality disorders, and chronic pain (Bremner et al., 1992; Carlson & Rosser-Hogan, 1991; Saxe, van der Kolk, Berkowitz, Chinman, Hall, Lieberg, & Schwartz, 1993; Walker, Katon, Nerass, Jemelka, & Massoth, 1992; Warshaw, Fierman, Pratt, Hunt, Yonkers, & Massion, & Keller, 1993), negativity or indifference towards the body and pain, which may facilitate suicidal behaviour (Orbach, 1994; Orbach, Lotem-Peleg, & Kedem, 1995), pathological gambling (Brown, 1999b), and substance abuse disorders (Ellason et al., 1996).

## **Aetiology**

Dissociation has been historically related to stress, since the time of Freud's and Breuer's early writings on 'traumatic hysteria'. Freud (1896a, 1986b) originally associated dissociation to childhood sexual trauma, the memories and emotions of which were actively repressed by the ego to protect itself, but were still expressed as symptoms (Nemiah, 1998). Although Janet (1889, 1907) also conceptualized dissociation as a response to stress, he believed that some people were constitutionally (i.e., genetically) predisposed to experience pathological dissociation. Therefore, his theory was basically one of diathesis and stress (Monroe & Simons, 1991).

Arguably, a dynamic of diathesis-stress interaction of biological, psychological, and environmental variables contribute to the aetiology, development and maintenance of dissociative experiences.

## **Predisposition**

The view that the degree to which individuals dissociate depends on their personality type has been suggested and empirically supported by a number of authors (i.e., Goldberg, 1999; Groth-Marnat & Jeffs, 2002; Kihlstrom, Gliskey, & Angiulo, 1994; Kwapil, Wrobel, & Pope, 2002; Ruiz, Pincus, & Ray, 1999; Spiegel, & Greenleaf, 1992). Arguably, personality dimensions influence both people's capacity and motivation to dissociate, including the supposedly negative or positive characteristics of the dissociative experiences, the phenomenological individual perception of the experience as something to be avoided, preserved, or encouraged further, and the consequences of dissociation. In addition, dissociation itself may be conceptualized as a psychological correlate of traditional personality constructs, as a sixth dispositional domain independent of the Big-Five personality dimensions, or as a facet or component of the Neuroticism and/or Openness dimensions of the Big-Five personality model (i.e., Goldberg, 1999; Groth-Marnat & Jeffs, 2002; Kihlstrom et al., 1994; Kwapil et al., 2002; Ruiz et al., 1999; Spiegel, & Greenleaf, 1992).

As it has been previously noted, some authors have directly or indirectly related personality to the conceptualization of dissociation. For example, the 'continuum' framework places common phenomena such as absorption and imaginative involvement at the mild end of the spectrum. However, absorption has been traditionally regarded as a personality variable (i.e., Tellegen & Atkinson, 1974), which in turn has generated a great deal of personality research over the last 25 years (i.e., Rupert, Baird, & Tetkoski, 1986). The 'category' framework explicitly

considers a non-pathological, relatively non-trauma originated, trait-like type of dissociation, comprising experiences such as absorption and related constructs (i.e., Kihlstrom, Gliskey, & Angiulo, 1994). Nevertheless, the hypothesis is advanced that since personality is a multidimensional construct, it is relevant to the whole spectrum of dissociative experiences, including the 'non-pathological' and 'pathological' ends of the continuum, or the respective 'normal' and 'abnormal' types.

## Measurement

Regarding the assessment of dissociation in pathological gambling, a number of studies have developed measures to assess the frequency of DSM-IV diagnostic criteria, associated features, and consequences. It is becoming common usage to include at least one question concerning some aspect of dissociation in those measures. For instance, Beaudoin and Cox's (1999) DSM-IV-based questionnaire enquired, "Have you ever felt detached from your surroundings while gambling, as though in a trance" (p. 485-486). However, current research on addictions reports the use of two main self-report instruments for measuring the dissociative domain: a) The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) to assess general dissociative tendencies in life; and b) Jacobs' (1988) Questionnaire to assess level of dissociation experienced while engaging in a potentially addictive activity (i.e., gambling, drinking, or using drugs).

## Criticisms

Dissociation remains a vague and ill-defined concept, which is difficult to be operationalized. This is particularly the case in gambling research. Regarding the most widely used instrument, the DES, some authors have pointed out that about two-thirds of the items can be explained in term of cognitive control (i.e., distribution of attention, ways of recalling memories, and use of imagination). Consequently, relatively common occurrences such as absent-mindedness (i.e., cognitive control lapses) would predict high DES scores (Frankel, 1990, 1996; Hacking, 1995). Similarly, the fact that one of the DES major components measures absorption in imaginative activities has been questioned (Kihlstrom, Glisky, & Angiulo, 1994; Spanos, 1996). Therefore, relatively normal phenomena such as fantasy proneness would predict elevated DES scores (Rauschenberg & Lynn, 1995). In fact, Merckelbach, Muris, and Rassin (1999) reported moderately robust correlations between all three dissociation subscales and everyday cognitive lapses and fantasy proneness, in a non-clinical sample (i.e., undergraduate students). Taken together, the findings question the utility of the DES as a screening tool for pathological dissociation.

### Jacobs' (1988) Questionnaire

This 4-item scale is the operationalisation of the dissociation component of Jacobs' General Theory of Addictions, and assesses 4 dissociative-like states experienced during or immediately following a period of indulgence. The first item measures a blurring of reality testing: "After (activity noted) have you ever felt like you had been in a trance?" The second item represents a shift in persona: "Did you ever feel like you had taken on another identity?" The third item captures out-of-body experiences: "Have you ever felt like you were outside yourself - watching yourself (doing it)?" The fourth item assesses the experience of amnesic and fugue-like states: "Have you ever experienced a memory blackout for a period when you have been (doing the given activity)?" The reliability and validity data of this questionnaire are not

available. However, this measure has been adapted and employed in research investigating eating disorders (Jacobs, 1988), alcohol and other drugs dependence (Jacobs, 1988; Rosenthal, & Lesieur, 1992), and gambling (Brown, 1999b; Diskin, & Hodgins, 1999; 2001; Gupta, & Derevensky, 1998; Wynne Resources, 1998; Rosenthal, & Lesieur, 1992).

Some variations of the original 4 questions have been introduced. For example, Gupta, & Derevensky (1998) added a fifth question enquiring whether the person experiences “loss of time” while gambling. By comparison, Lesieur, and Rosenthal (1994) did not include item 2 (i.e., identity), and extended item 4 to also enquire about amnesic experiences immediately before, during and after the gambling activity. In addition, a new item was added. The fifth item assessed the experience of ‘unconsciously’ gathering money to play at the beginning of a gambling session, and to subsequently become aware of having performed this action by the ending of that session, as if one woke up from a dream. In addition, Diskin and Hodgins (2001) modified the questions to reflect dissociation during video lottery terminal (VLT) gambling, and a fifth question regarding losing track of time while indulging in VLT gambling was added. The frequency of dissociative experiences reported across studies employing Jacobs’ measure has been highly consistent (i.e., see Brown 1994; Hudak, 1994; Jacobs, 1988; and Lesieur, and Rosenthal, 1994; cited in Brown 1999b).

Findings have shown substantial correlations between pathological gambling and dissociation, as measured by Jacobs’ questions. For instance, Rosenthal and Lesieur (1992) reported the following significant ( $p < 0.001$ ) correlations: being in trance,  $r = 0.58$ ; feeling outside of oneself,  $r = 0.44$ ; experiencing memory blackouts,  $r = 0.38$ ; and feeling like a different person,  $r = 0.58$ . Similar results have been reported in the literature. Although a study reported by Diskin and Hodgins (2001) found that experiencing dissociation while gambling in video lottery terminals (i.e., Jacobs’ items) was not significantly correlated with general dissociative experiences in life (i.e., DES), results tend to reveal the presence of strong correlations between Jacobs’ dissociative questions and the DES (i.e., Brown, 1996).

#### Gambling as a Psychological “Escape”

Several theories of pathological gambling behaviour include the concept of gambling as an escape (i.e., Jacobs, 1986; 1988; Taber et al., 1987a; Taber et al., 1987b). For a subset of gamblers characterized by affective instability, gambling activity may serve the adaptive function of providing an escape from depression, boredom, painful memories, and/or current life problems (i.e., Blaszczynski, 1999a). It has been noted that there may be at least two forms of escape-related gambling. That is, escaping from problems and chronic feelings existing prior to the onset of gambling and escaping from problems and negative affect derived from gambling’s consequences (Custer, Lorenz, & Linnoila, 1988; Lesieur, & Blume, 1990; Rosenthal, & Lesieur, 1992). This psychological escape may be the result of dissociative experiences (Jacobs, 1986; 1988), the narrowing of the focus of attention on the gambling activity to the exclusion of all else (Anderson & Brown, 1984), and/or a strong habituation to the person-machine interaction, which provides an “unthinking escape” from negative affectivity (Dickerson, 1993, p.240).

## Jacobs' Addictive Personality Syndrome: Dissociation and Gambling

Jacobs (1986) proposed a general theory of addictions, using the pathological gambler as the prototype. Addiction was defined as a dependent state acquired over time to relieve chronic stress, and conceptualized as a form of self-treatment. The presence of two interrelated sets of coexisting predisposing factors determines who is at risk of maintaining an addictive pattern of behaviour, in a conducive environment:

- 1) Physiological state: A chronic, atypical, persistent, unpleasant unipolar physiological resting state that is either excessively depressed (hypo-arousal) or excited (hyper-arousal).
- 2) Psychological state: Deep feelings of inadequacy, and inferiority, and the sense of being unwanted, unneeded, and/or rejected by parents, peers and significant others.

This state would be produced by childhood and early adolescence experiences, and results in intense need for success, recognition, and approval. A subset of children experiencing these conditions react by pretending not to care, and/or psychologically leaving the hostile environment through escaping into wish-fulfilling fantasies of being successful, admired, and loved (see also Jacobs, 1988).

Findings reveal the presence of intergenerational effects (Jacobs, Marston, Singer, Widaman, Little, & Veizades, 1989). For example, 34% of children of problem gamblers reported that the "most typical reaction to rejection by important adults in your life" was to "pretend I didn't care". In addition, compared with their peers, children of problem gamblers reported being more preoccupied with a combination of dreaming about and thinking, as well as "constantly resisting a strong impulse to" drink (31%), use drugs (37%), and eat (46%). In fact, compared with their high school peers, children of problem gamblers showed significantly greater drive to escape reality by seeking mood-altering substances and experiences. For instance, in 1989 they reported moderate to heavy use of cigarette (37%), cocaine (10%), other 'upper' drugs (25%), marijuana (18%), alcohol (40%), 'downers' drugs (4%), other 'downers' (8%), overeating (35%), and gambling (8%, of which 75% had age of onset before 11 years of age). Twelve per cent of children of problem gamblers reported attempting to commit suicide, a figure that was twice that of their peers (Jacobs et al., 1989).

According to Jacobs (1988), indulging in addictive activities provides an escape from physiological and psychological pain, and also allows people to experience wish-fulfilling fantasies. These escapes seem to be of a dissociative nature, and have been found in pathological gamblers, compulsive overeaters, and alcoholics. Pathological gamblers tend to handle stress through avoidant, dissociative coping mechanisms such as denial, and compensatory fantasy (see also McCormick, 1994; Rosenthal, & Rugle, 1994). When people at risk encounter a pleasurable, tension-relief, chance, triggering event (i.e., one-trial learning), they may deliberately arrange future similar experiences. For instance, the chronically tense and over-mobilized (reducer type) experiences relaxation, or the chronically under-mobilized (enhancer type) "replaces their sense of being 'numb', 'empty', or 'feeling dead inside' with a scintillating sense of being acutely alive" (p.21). All kinds of addictions are expected to follow a course of three common sequential stages, namely discovery, resistance to change, and exhaustion. Maintenance of addictive behaviour is supported by positive reinforcement: memory and expectation of pleasure, and negative reinforcement: escape from and avoidance of anticipated pain represented by the return to the

original aversive physiological and psychological states (Jacobs, 1988; see also Jacobs, Marston, & Singer, 1984).

Jacobs (1988) argued that, while indulging, people known to be addicted to different substances and/or activities tend to experience a common set of dissociative-like states that differentiate them from non-addicts indulging in the same types of activities or substances. This was described as a state of altered identity or altered consciousness.

Kuley and Jacobs (1988) reported that problem gamblers scored higher than social gamblers on the occurrence of dissociation, as measured by Jacobs' (1988) questionnaire. Furthermore, Jacobs (1988) compared the responses of pathological gamblers, alcoholics, compulsive overeaters, and normative samples of adult participants and high school students, to his 4-items questionnaire of dissociative experiences while indulging. Findings revealed that all three 'addict' groups scored higher on dissociation than the normative samples. In addition, pathological gamblers reported experiencing three aspects of dissociation (i.e., trance, altered identity, and out-of-body experiences) more frequently than did alcoholics and compulsive overeaters. In contrast, alcoholics experienced memory blackouts more often than did pathological gamblers and compulsive overeaters.

For item 1 (i.e., being in trance when gambling/drinking/overeating), pathological gamblers experienced trance more often than the other two addict groups. Four out of five gamblers (79%) reported to have had this experience 'occasionally' to 'all the time' while gambling, 62% of the alcoholics experienced it when drinking, and 41% of the compulsive overeaters experienced it when overeating. Regarding item 2 (i.e., taking on another identity), pathological gamblers and alcoholics reported having this experience significantly more often than did the compulsive overeaters. The respective percentages are: gamblers (79%), alcoholics (73%), and overeaters (44%). Concerning item 3 (i.e., outside yourself - watching yourself when doing it), pathological gamblers reported having this experience most frequently (50%), followed by alcoholics (34%), and overeaters (30%). By comparison, regarding item 4 (i.e., memory blackouts), alcoholics reported having this experience most frequently (73%), followed by pathological gamblers (38%), and compulsive overeaters (14%).

Regarding the comparison of children of problem gamblers with their high school peers, the former group reported having the above mentioned dissociative experiences 18% more often when gambling, 17% more frequently when drinking and when taking drugs, and 49% more often when overeating. Overall, these results reveal the presence of high frequency of dissociation being transmitted across generations. In addition, compared with their peers, a higher percentage of the children with gambling parents remembered "with great clarity and completeness, like it was yesterday" their first experiences with gambling (13% vs 5%), drinking (25% vs 19%), cocaine (15% vs 9%), and overeating (27% vs 7%). Children of problem gamblers also listed the set of items referring to escape (i.e., escape from "emotional tension", "a humdrum life", or "an unhappy home"), as their primary goal for indulging, 20% more frequently than did their schoolmates. (Jacobs et al., 1989, p. 264).

### Empirical studies

Consistent with Jacobs' (1986; 1988; Jacobs et al., 1989; Kuley & Jacobs, 1988) theory, empirical findings have revealed the presence of a strong relationship between dissociation and pathological gambling (Brown, 1999; Diskin & Hodgins,

1999; 2001; Gupta, 2000; Gupta, & Derevensky, 1998; Kofoed et al., 1997; Lesieur, 2001; Nower, 2001; Rosenthal, 1995). A number of studies have investigated general dissociative tendencies, usually assessed through the Dissociative Experiences Scale (i.e., Brown, 1999; Diskin & Hodgins, 1999; 2001; Gupta, 2000; Kofoed et al., 1997; Lesieur, 2001; Rosenthal, 1995), while other studies have specifically focused on levels of dissociation while gambling, as measured by Jacobs' (1988) dissociative questionnaire (i.e., Browns, 1999b; Diskin & Hodgins, 1999; 2001; Gupta, & Derevensky, 1998; Nower, 2001; Wynne Resources, 1998). Although the findings are not always consistent, the distinction between these two components of the dissociative domain is highly significant. For example, in Diskin and Hodgins' (2001) study problem gamblers did not differ from occasional gamblers on general dissociative tendencies, but the former reported significantly more dissociative experiences while gambling. However, other studies have found significant differences in general dissociative tendencies across gambling groups (Brown, 1986; Diskin, & Hodgins, 1999; Kofoed et al., 1997).

Gupta and Derevensky (1998) tested Jacobs' (1986) General Theory of Addictions by administering Jacob's questionnaire to a large sample of occasional, regular, problem, and pathological adolescent gamblers. The findings of path analysis and logistic regression lend support to Jacobs' theory. Adolescent problem and pathological gamblers exhibited indirect evidence of under-aroused physiological resting states, greater emotional distress (23% being clinically depressed), higher levels of dissociation, and higher rates of reported comorbidity with substance abuse (i.e., alcohol: 40%, illicit drugs: 10.8%, and cigarette smoking: 44.6%), than did occasional and regular gamblers. Hypotonic physiological resting state manifested itself as drive for stimulating activities and environments in males, and as drive to use stimulant drugs in females. Problem and pathological gambling were predicted in males by total dissociation score, and the Excitability factor (High School Personality Questionnaire HSPQ; Catell, Catell, & Johns, 1984), while they were predicted in females by higher experience of dissociation, depressed mood, and 'uppers' drug use. In addition, adolescent problem and pathological gamblers scored higher on Disinhibition (Sensation Seeking Scale - Form V; Zuckerman, Eysenck, & Eysenck, 1978). They indicated "feeling best" when being in a stimulating environment, and reported gambling to escape problems, achieve excitement, and alleviate depression.

Gupta and Derevensky (1998) found that the adolescent problem and pathological gamblers scored higher on dissociation (i.e., all items, and total score) than did occasional and regular gamblers. The type of dissociative experiences most frequently reported by problem and pathological gamblers were "feeling like a different person", and "losing track of time". Wynne (1994) found that when Jacobs' Questionnaire was given to problem and non-problem gamblers as part of an epidemiological study, only the problem gamblers answer affirmatively to any of the questions. Wynne (1994) reported that gamblers feel as if they were in a trance when gambling, losing track of time. For example, they may begin a gambling session intending to gamble \$20 over a half an hour period, but 'come to' several hours later having spent several hundred dollars. Jacobs' dissociative questionnaire was also included in a gambling prevalence survey done in Alberta (Wynne Resources, 1998). A greater percentage of problem and probable pathological gamblers reported having experienced these types of dissociation than it was the case regarding non-problem gamblers (cited in Diskin & Hodgins, 2001). Similarly, Brown (1996) found that a sample of Gamblers Anonymous members scored significantly higher on Jacobs' questions than did a sample of occasional gamblers. The greater frequency of

dissociation while gambling reported by the Gamblers Anonymous group was consistent with their also higher DES scores on general dissociative tendencies.

Diskin and Hodgins (1999) modified Jacobs' questionnaire to reflect dissociation while indulging in video lottery terminal (VLT) gambling, and a fifth question regarding losing track of time was added. Results indicated that pathological gamblers experienced greater number of dissociative experiences when gambling than did occasional gamblers. For example, pathological gamblers responded significantly higher than occasional gamblers on question 2 ("Did you ever feel like you had taken on another identity while playing VLTs?"), and on the novel question 5 ("Have you ever 'lost all track of time' when you have been VLT gambling?"). Although no significant differences between the groups were found for questions 1, 3, and 4, responses to questions 1 and 4 approached significance. In addition, pathological gamblers obtained significantly higher scores than occasional gamblers, on general dissociative tendencies (DES). Both groups scored higher on the items comprising the DES sub-scale Absorption, than on the items assessing more pathological forms of dissociation.

Diskin and Hodgins' (2001) findings revealed that the mean of total responses endorsed by problem gamblers (4.80) was significantly higher than the total mean reported by the occasional gamblers (2.54). In addition, problem gamblers scored higher than occasional gamblers on question 4 ("Have you ever experienced a memory blackout for a period when you had been VLT gambling?"), and on the additional question 5 ("Have you ever 'lost track of time' when VLT gambling?"). However, compared with occasional gamblers, problem gamblers were not significantly more likely to report having feelings of trance (item 1), taking on another identity (item 2), or the sense of being outside oneself observing the self (item 3) while gambling. Similarly, there were not significant differences in DES scores (general dissociative tendencies) between both groups. These results may be interpreted as an indication that their participants were experiencing less degree of life distress, and/or that the groups were not as heterogeneous as it was the case in other studies (Diskin, & Hodgins, 2001).

The frequency of dissociative experiences reported across studies employing Jacobs' measure has been highly consistent (i.e., see Brown 1994; Hudak, 1994; Jacobs, 1988; and Lesieur, and Rosenthal, 1994). Jacobs' (1988) original 'normative' sample comprised groups of problem gamblers, alcoholics, and overeaters. Brown's (1994) sample consisted of Gamblers Anonymous members, and social gamblers. Hudak's (1994) sample comprised pathological gamblers seeking treatment for gambling problems, and Gamblers Anonymous members. Lesieur and Rosenthal's (1994) sample consisted of pathological gamblers, and substance-dependent participants. Brown (1999b) compared the frequency of dissociative experiences reported among the problem gamblers comprising these studies, and the result revealed very similar percentages. For example, regarding item 1 (being in a trance), the percentage of problem gamblers reporting to ('occasionally' to 'all the time') have this experience while gambling ranged from 77% to 81% across studies. Concerning the other items, the ranges of percentages reported across these four studies were as follow: For item 2 (another identity) 68% to 79%; for item 3 (outside oneself) 50% to 56%; and for item 4 (amnesia, memory blackout) 36% to 44%.

Furthermore, findings suggest that the presence of dissociation, as measured by Jacobs' questionnaire, is significantly related to withdrawal-like symptoms experienced when attempting to stop or slow down gambling. For instance,

Rosenthal and Lesieur (1992) found that the number of physiological withdrawal symptoms was significantly correlated with experiencing a memory blackout ( $r = 0.27$ ,  $p < 0.001$ ), and feeling outside oneself ( $r = 0.14$ ,  $p < 0.05$ ) while gambling. Withdrawal symptoms associated with feeling outside oneself and memory blackout were sweating, loss of appetite, heart racing or palpitations, having difficulty breathing, restlessness, irritability, and cravings. Memory blackout while gambling was also related to experiencing insomnia, headaches, upset stomach or diarrhoea, physical weakness, shaking, muscle aches, cramps, chills and/or fever, when attempting to stop or slow down gambling.

These results were consistent with the findings reported by Bergh and Kuhlhorn (1994) for a Swedish sample. Forty per cent of pathological gamblers regularly experienced a state of altered consciousness, including feeling “removed from reality”, “being totally alone, despite being in a crowd”, “a trance-like state of mind”, and “exaltation”, when gambling heavily. Thirty three per cent experienced two or more withdrawal-like symptoms, such as sweating, trembling, restlessness, and irritation, during non-gambling periods (p. 269). In addition, for Rosenthal and Lesieur’s (1992) sample, gambling to escape from problems and/or negative feelings was the reason most strongly correlated with the number of withdrawal symptoms experienced ( $r = 0.31$ ,  $p < 0.001$ ), and (with the exception of chills) it was the only reason correlated with all the withdrawal symptoms.

In addition, situational factors such as type of gambling form appear to be related to dissociation. For instance, Kofoed, Morgan, Buchkoski, and Carr (1997) suggested that compared with other forms of gambling, video lottery terminals (VLTs; e.g. electronic games of poker, black-jack, and keno) might produce dissociative responses even in individuals who had previously experienced relatively lower levels of dissociation. Video lottery gambling is the predominant type of gambling form indulged by gamblers seeking treatment in South Dakota. A high percentage of pathological gamblers reported that after exposure to VLTs it became their primary type of gambling, and their gambling behaviour increased in severity. VLT gambling is significantly associated with a more severe level of pathological gambling (e.g., meeting an increased number of DSM-IV criteria), regardless of involvement in other types of gambling. It has been argued that the particular risk presented by VLT gambling could be associated with their availability and accessibility, as well as with particular characteristics of the stimulus. One of the maximized features of VLTs is the “ability to promote dissociative-like experience or a sense of ‘escape’” (Morgan, Kofoed, Buchkoski, & Carr, 1996, p.452-453; see also Carr, Buchkoski, Kofoed, & Morgan, 1996).

Similarly, findings reported by Beaudoin and Cox (1999) for a Canadian sample seeking treatment for gambling problems, indicated that 73.7% reported feeling “detached from your surroundings while gambling, as though in a trance” (p. 485-486), 87% used VLTs daily or weekly, more than 80% reported that they gamble to escape from life’s problems or to relieve dysphoria, 50% reported suicidal ideation, and 16% reported past suicidal attempts.

Nevertheless, it is significant to note that the apparent dissociation-VLT correlation may be confounded by gender and age factors. That is, most research on gambling has traditionally relied on older male samples. However, some findings indicated that a significant number of people using VLTs are younger and/or women. For example, a report released by the Addictions Foundation of Manitoba, Canada, revealed that approximately one-third of individuals seeking treatment for gambling problems were

women, and 43% were between 18 and 34 years old (Beaudoin & Cox, 1999). As it has previously been mentioned, empirical results have indicated that dissociation is positively related to being adolescent or young adult, and to a lesser extent, to being female. The interaction effects of gambling form, gender, and age on dissociative experiences remain an empirical question in need of investigation.

The putative psychological escape often occurring during a gambling session may be conceptualized as the result of dissociative experiences such as psychological absorption, or simply in cognitive terms, as the narrowing of the focus of attention on the gambling activity to the exclusion of everything else. Diskin and Hodgins (1999; 2001) examined issues of dissociation and narrowing of attention in different groups of gamblers, using a behavioural measure of extreme focus.

Results were subsequently compared with the two self-report measures most widely used with gambling populations, Jacobs' questions, and general dissociative tendencies DES.

Dissociation, during and after gambling, may also arise in the context of the highly stressful circumstance known as the 'bad bet' (Rosenthal, 1995). 'Bad bets' refers to a devastating loss that occurs under improbable, implausible, and/or psychologically unacceptable circumstances. A bad bet may be as significant as an early "big win" in terms of the development of problem gambling. The phenomenology of the complex experience referred to as bad bets may be divided into three phases, namely manic reaction, realization and regaining inner control (Rosecrance, 1986). The first phase is characterized by dissociative elements (i.e., denial, disorientation, derealization), personalization and anger ("Why is this happening to me?", "this isn't fair"), external attribution and increased superstitiousness (i.e., shift to external locus of control, "bad luck"), and loss of control over gambling (undoing, chasing), which may last for hours, days, months, or years. A typical description of the derealization felt by a gambler following a bad bet would include the experiences of seeing the scene in slow motion, surreal, and dream-like, while thinking "This isn't happening, this isn't real" (Rosenthal, 1995, p.369).

## Conclusion

In conclusion, the cliché remains true to form: there is some evidence to support dissociation as a phenomenon associated with problem gambling but its concept and precise role remains uncertain, calling for more research and understanding.

*This review of literature is based on the substantive work carried out by Alicia Garcia during her doctorate candidature under the supervision of Alex Blaszczyński. For references please contact the lead author at [aliciananda@bigpond.com](mailto:aliciananda@bigpond.com).*

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## **Dissociative States in Problem Gambling**

### **Dissociation: Definitional and Measurement Issues**

It is clear that dissociation and "zoning out" are somewhat "fuzzy" concepts as there is no clear accepted definition of what they actually constitute and whether they are the same thing. Most would agree that dissociation/"zoning out" is a form of altered state of consciousness. Dissociative behaviours lie on a continuum and range from losing track of time, feeling like you are someone else, blacking out, not recalling how you got somewhere or what you did, being in a trance like state, and in extreme forms it includes multi-personality disorders. Others may argue that dissociation involves being removed from experience in terms of physical sensation and emotional experience and act as a coping mechanism. Since there is no definition at all in the literature relating to "zoning out" we have come to the conclusion that when people refer to "zoning out" in a clinical sense that they are really talking about a dissociative state that lies along the continuum. Furthermore, because dissociative states are fuzzy concepts, they are almost impossible to measure although if such states lie along a continuum it is theoretically possible to get an indicative measure of severity (from mild distraction through to full blown dissociation) using self-report measures. However, self-report measures are inherently subjective and lead to measurement problems of their own.

In its most extreme forms, dissociation appears to be a deeper-rooted defence that has its origin in protecting the vulnerable self from perceived threat and from being overwhelmed emotionally, e.g., a defence mechanism in response to psychological trauma. Dissociation also seems to have the element of depersonalization - the loss of identity and the separation of person(ality) from the traumatic event.

Dissociation also needs to be differentiated from distraction although it could be the case that they are at opposite ends of the same continuum. For example, a person may use gambling as a distracting activity but over time may progress into a dissociative one. Distraction usually involves a person's attention being pulled somewhere other than where he or she wants it to go although some people may deliberately engage in some activities (drinking, playing videogames, socializing etc.) as a way of shifting their thoughts away from something they do not want to think about. Distraction can be born out of boredom, lack of interest, melancholy and creativity; and can generally be seen as a low level state of avoidance. It may also

be a symptom of depressive or mood disorders and high levels of stress. On the whole, losing track of time because of distraction is normal, up to a point, when you are having fun. However, using an activity to consistently avoid dealing with serious problems, experiencing black outs or going into a dissociative trance like state is not.

### **Gambling and dissociation: Previous empirical work**

On the whole, the role of dissociation in gambling has been a fairly under-researched area. Milkman and Sunderworth (1983) suggested that people do not become addicted to drugs or mood altering activities as such, but rather to the satiation, arousal or fantasy experiences that can be achieved through them. Jacobs (1988) further suggested that addicts use substances and activities as a form of self-treatment in order to escape from feelings of unhappiness or stress. He also argued that such addicts share a common set of dissociative-like experiences that differentiate addicts from non-addicts. As a consequence, he developed a group of questions intended to “assess” feelings of dissociation. These tapped into feelings related to blurring of reality testing, shift in persona, out of body experience, and amnesic/fugue-like states while gambling. Kuley and Jacobs (1988) used these questions on a small number of gamblers and reported higher dissociation scores than non-problem gamblers. Brown (1996) used Jacobs’ questions on a small sample of Gamblers Anonymous (GA) members and reported that they scored significantly higher than social gamblers. He also administered the Dissociative Experiences Scale (Bernstein & Putnam, 1986) and found that GA members scored significantly higher on these questions too. Similar findings have also been reported in other general samples of adult problem gamblers (Wynne, 1994), comparisons between different problem gamblers and alcoholics (Kofoed, Morgan, Buchoski & Carr, 1997), video lottery gamblers (Diskin & Hodgins, 1999) and adolescent problem gamblers (Gupta & Derevensky, 1998).

Dissociation appears to be a feature of a variety of activities and substance related behaviours, and has been linked to substance abuse (Penta, 2000), sex addiction (Griffin-Shelley, Benjamin, & Benjamin, 1995) and compulsive internet use (Greenfield, 1999) to name a few. More recently, Wood, Gupta, Derevensky and Griffiths (2004) in a study comparing the characteristics and features associated with gambling and video game playing in adolescence, found that problem gamblers were also more likely to be excessive video game players and to report various aspects of dissociation (trance like states, out of body experiences, feeling like a different person, losing track of time, blackout) whilst undertaking both activities. Therefore, it may be that problem gamblers either seek out activities that provide a dissociative experience and/or they are more likely than non problem gamblers to experience dissociation whilst undertaking a number of activities. Given the wide range of activities that are associated with dissociation and their link with addiction it seems likely that dissociation is a fundamental part of addiction. However, whether dissociation is a causal factor or a symptom of addiction is less clear.

Grant and Kim (2003) carried out a study examining the link between dissociation and pathological gambling. Thirty adult outpatients who met DSM-IV criteria for pathological gambling and had no co-morbidity were administered the Dissociative Experiences Scale (DES). Their results showed that the pathological gamblers had DES scores that did not significantly differ from those reported by normal controls. They concluded that pathological gamblers do not appear to experience dissociative symptoms (as reflected on the DES) at a rate significantly different from those found in normal controls. However, they noted that their sample was derived exclusively

from pathological gamblers who sought medication, and who had no co-morbidity, and may therefore not be representative of problem gamblers in general. Furthermore, the DES scale relates to actual experiences and as such this sample of outpatients, who were abstaining from gambling, may not have found the questions directly relevant to their current behaviours.

Diskin and Hodgins (2001) extended a previous study (Diskin & Hodgins, 1999) to experimentally examine dissociative states amongst 42 video lottery terminal (VLT) players. They hypothesised that if problem gamblers dissociate from their environment, they would be slower to respond to a light stimuli than non-problem gamblers, when playing a VLT. In the baseline first condition, participants responded to a light stimuli placed on top of a covered VLT for five minutes, and then they played the uncovered VLT for another twenty minutes during which time they were also asked to respond to the light stimuli. In the VLT first condition, participants first played an uncovered VLT for twenty minutes, and then responded to the light stimuli on the covered VLT for a further five minutes. What they found was that problem gamblers in the VLT first condition took twice as long to respond to the light stimuli than occasional gamblers, supporting the hypothesis. However in the baseline first condition, problem gamblers were almost seven times faster to respond to the light stimuli than occasional gamblers, refuting the hypothesis. The findings appear to demonstrate two things. Firstly, if problem VLT gamblers are given the opportunity to engage with the gambling activity first (VLT first condition) then they will indeed show some dissociation. Whether this actually demonstrates dissociation or a reluctance to shift focus away from the VLT is questionable. Secondly, problem VLT gamblers may be quicker at responding to light stimuli when they are allowed to practice the task first (baseline first condition) and have not had the opportunity to sufficiently engage with the VLT. This is perhaps not surprising as somebody who frequently plays a VLT will be well practised at quickly responding to a series of flashing lights, one of the essential structural characteristics of the game.

There is also some indirect evidence of dissociative-like states from the observational and experimental work of Griffiths (1991; 1994) on UK slot machine gamblers. For instance, in Griffiths (1991), a longitudinal observational study of slot machine players noted that a majority of regular gamblers displayed similar behavioural characteristics. One such characteristic was playing at a very fast speed as if they were on 'automatic pilot'. Although Griffiths did not describe such behaviour as dissociative, the behavioural observations made certainly appear to mirror dissociation. Furthermore, Griffiths' (1994) experimental research into cognitive biases of slot machine players using the 'thinking aloud' method also came to similar conclusions. Despite the fact that a few non-regular gamblers verbalized that their mind had gone blank (i.e. they said things like "I can't think of anything to say - my mind's gone blank") it was the regular gamblers whose minds went blank in behavioural terms because a number of them stopped speaking completely for periods of up to 30 seconds. This was probably because these regular gamblers were on "automatic pilot" in that they could gamble on slot machines without attending to what they were thinking about.

It could also be the case that increased experience in the act of gambling on slot machines took it from being cognitively controlled to automatic, and that what is available for the novice may be unavailable to the expert (Ericsson & Simon, 1980). Since many studies have reported that some gamblers play for escapist reasons (e.g. to forget about a relationship, a broken home etc.) it is perhaps unsurprising that the more regular gamblers "blanked out" going into what perhaps can only be described

as "escape mode". The "escape mode" that Griffiths observed in this experimental situation again appears to be a dissociative process. Anyone who has watched slot machine players for any length of time will see that they are often "mesmerized" by a slot machine and cannot be distracted. They are totally oblivious to their surroundings. They enter the fantasy world of the slot machine, becoming unhooked or dissociated from their surroundings.

### **Is dissociation a fundamental motivation in problem gambling?**

While it is clear that some, if not most, problem gamblers appear to exhibit dissociative states, others do not. As a consequence, dissociation is not a fundamental motivating component underlying impaired control in all gamblers. However, it is unlikely that dissociation is pivotal in all cases. Blaszczynski (2000), in his Pathway Model, distinguishes between three types of pathological gambler and it may be the case that dissociation is most relevant to subgroup two gamblers. These gamblers are emotionally disturbed and Blaszczynski notes that gamblers within this subgroup cannot express their emotions directly and effectively, and show a tendency to engage in avoidant or passive aggressive behaviours. Consequently, these gamblers may be most likely to seek out dissociative experiences as a means of coping with their psychological states. In contrast subgroup one gamblers (the least severe group) do not present any specific premorbid psychopathology and fluctuate between heavy and problem gambling behaviour, and any dissociation could conceivably be a symptom rather than a motivation to gamble. Sub type three gamblers are characterised by a neurological or neurochemical dysfunction characterised by impulsivity or attention-deficit features. These gamblers may seek to gamble in order to attain rewards, such as increasing arousal levels, rather than to dissociate. However, more research is needed to examine any direct relationship between dissociation and gambling types.

Jacobs' research findings have consistently supported the position that the phenomenon of (self-induced) dissociation constitutes an unbroken continuum of behaviours (Jacobs, Marston & Singer, 1985; Jacobs, 1988). Towards the far end of this continuum are ever more extreme dissociative reactions, such as those reported by patients showing post-traumatic stress disorders, functional fugue states and dissociative identity disorders (Jacobs, 1982).

Cardena (1994) has argued that the concept of dissociation should be restricted to the more clinically abnormal circumstances where there is a qualitative disconnection from ordinary modes of experience (such as watching television and videogame play). Jacobs (2001) believes it is more parsimonious to view dissociation as the unbroken continuum. Such a conceptual framework allows for increases in the frequency and types of dissociative reactions reported would indicate the extent to which the person chooses to progressively separate themselves from ordinary, mildly challenging to highly aversive reality situations. For example, Jacobs (2000) has reported the progressively increasing use of five different dissociative reactions as direct correlates to the increasing extent of self-reported problems with gambling. These are that the gambler:

- lost track of time while gambling
- felt like they were a different person
- felt like they were outside themselves, watching themselves gamble
- felt like they were in a trance
- experienced a memory blackout for things that happened while they were gambling.

## **Dissociation, gambling and coping styles**

There is a growing body of evidence that suggests problem gamblers, and other addicted persons, employ avoidant, suppressive or reactive coping styles (McCormick, 1994; Getty, Watson & Frisch, 2000; Marget, Gupta & Derevensky, 1999; Nower, Gupta & Derevensky 2001; Gupta and Derevensky, (2004). According to Heppner, Cook, Wright & Johnson (1995), suppressive coping is characterised by avoidance, escapism, disorganisation and a lack of persistence in problem solving, and it may be that such coping styles make use of dissociation to achieve those states. Blaszczynski (2001) noted that one of the most reported clinical observations in problem gamblers is that life stressors precipitate bouts of gambling and that the gambling is an attempt to escape from emotional turmoil. Gambling has the capacity to produce heightened arousal, narrowed attention and an "altered state of consciousness" variably referring to the gambler as being in a state of dissociation or "in action" (Blaszczynski, 2001). It appears clear that many gamblers engage in gambling as a coping mechanism to deal with psychological stress/distress. The psychological motivation underlying gambling is the creation of a state of dissociation that provides temporary relief from psychic pain.

## **Dissociation, gambling and post-traumatic stress disorder**

Other indirect evidence that gambling and dissociation may be linked comes from the similarities between problem gambling and Post Traumatic Stress Disorder (PTSD) - a disorder known to induce dissociative states. Cooke (2002) claims that many symptoms of PTSD parallel the symptoms of late stage problem gambling. For instance, both disorders feature increased arousal, persistent and recurrent behaviour, self-destructive and impulsive behaviour. These features are highlighted by the co-morbid problems found in both disorders. There are also associated disorders such as depression, anxiety and related phobias, obsessive-compulsive, suicidal ideation and substance abuse. Furthermore, both disorders feature dissociation but for different reasons. For pathological gamblers dissociation allows for escape from problems, whereas for PTSD, dissociation includes a sense of reliving the trauma (Friedman 2000). Emotional numbing (which to some extent overlaps with dissociation) is strongly apparent in both problem gambling and PTSD. In the short term it is helpful in reducing the impact level of the stressor to something bearable, but in the long term, it harmfully reinforces the symptoms of the disorder. By emotionally detaching, it allows the gambler to continue gambling to attempt to solve their indebtedness and avoid the mounting consequences of their gambling behaviour.

## **Internet gambling and dissociation**

In an overview of Internet gambling, Griffiths (2003) pointed out that the medium of the Internet may provide immersive and dissociative feelings for its users and may facilitate feelings of escape. As outlined earlier, dissociation and immersion can involve lots of different types of feelings. These can include losing track of time, feeling like you are someone else, blacking out, not recalling how you got somewhere or what you did, and being in a trance like state. All of these feelings when gambling on the Internet may lead to longer play either because "time flies when you are having fun" or because the psychological feelings of being in an immersive or dissociative state are reinforcing.

Griffiths (2003) went on to argue that for some, the primary reinforcement to engage in Internet gambling is the gratification they experience online. However, the experience of Internet gambling itself, may be reinforced through a subjectively and/or objectively experienced "high." The pursuit of mood-modifying experiences is characteristic of addictions. The mood-modifying experience has the potential to provide an emotional or mental escape and further serves to reinforce the behaviour. Excessive involvement in this escapist activity may lead to addiction. Online behaviour can provide a potent escape from the stresses and strains of real life.

In a related aspect to dissociation, Griffiths (2003) also argued that the anonymity of the Internet allows users to privately engage in gambling without the fear of stigma. This anonymity may also provide the user with a greater sense of perceived control over the content, tone, and nature of the online experience. Anonymity may also increase feelings of comfort since there is a decreased ability to look for, and thus detect, signs of insincerity, disapproval, or judgement in facial expression, as would be typical in face-to-face interactions. For activities such as gambling, this may be a positive benefit particularly when losing as no-one will actually see the face of the loser.

There are also other factors that Griffiths (2003) outlined which may be highly inter-linked with dissociation including the interactivity of the activity itself and associability. The interactivity component of the Internet may also be psychologically rewarding and different from other more passive forms of entertainment (e.g., television). It has been shown that the increased personal involvement in a gambling activity can increase the illusion of control which in turn may facilitate increased gambling. The interactive nature of the Internet may therefore provide a convenient way of increasing such personal involvement.

One of the consequences of technology and the Internet has been to reduce the fundamentally social nature of gambling to an activity that is essentially asocial (although it could be argued that activities like online poker are social in some senses). Both Fisher (1993) and Griffiths (1991) have carried out observational analyses of slot machine players (particularly adolescents) and have reached similar conclusions. Those who experience problems are more likely to be those playing on their own (e.g., those playing to escape) (Griffiths, 1995). Retrospectively, most problem gamblers report that at the height of their problem gambling, it is a solitary activity (Griffiths, 1995). Gambling in a social setting could potentially provide some kind of "safety net" for over-spenders, i.e., a form of gambling where the primary orientation of gambling is for social reasons with the possibility of some fun and chance to win some money (e.g., bingo). However, it could be speculated that those individuals whose prime motivation was to constantly play just to win money would possibly experience more problems. In summary, it may well be that online and offline gambling differ in terms of the facilitation of dissociative behaviour and that this is an area for future research.

## **Conclusions and future directions**

There is currently a lack of suitable research that has adequately addressed the issue of dissociation amongst problem gamblers, and correspondingly there is also a lack of adequate theory. The vast majority of research to date has been limited to self-report questionnaires which are usually retrospective and limited to a set of predefined, non gambling specific, criteria (e.g. DES scale). Whilst these studies have been most useful in highlighting and correlating these features with problem

gambling, and other addictive behaviours, they do not tell us much about why dissociation occurs, and under what circumstances. The small number of experimental studies whilst attempting to provide some insight into dissociation as it happens, are flawed by their lack of realism. Our own studies of experimentally investigating time loss whilst playing video games, followed by open ended online questions sent to video game players, highlighted the limitations of using experiments in this manner (Wood & Griffiths, 2005). Dissociation seems to occur at specific times and in certain contexts that can not be replicated experimentally. For example, gambling can be a social or a solitary pursuit, it can be a response to a stressful episode (coping), it may be in conjunction with other activities or substances (e.g., smoking), and it is usually performed in familiar environments (e.g., local casino). These factors can not be controlled for or simulated experimentally. Furthermore, dissociation may not occur in all gamblers, or levels may vary depending on the type of gambler. Consequently, more qualitative research is needed to understand what dissociation is and what it means to problem gamblers. Such studies can then help us to build a theory that can then be tested and applied to a variety of gambling situations.

It is also clear that conceptualising dissociation in the context of gambling is not straightforward. It was suggested that it may exist on a spectrum, ranging from mild distraction on one end to total dissociation on the other. Despite the lack of research in this area we suggest that there may be a link between level of dissociation and type of gambling activity and this link needs to be investigated empirically. It may be reasonable to propose that dissociation is more likely during three distinct gambling phases:

- (1) Low cognitive activity - the gambler attributes little thought to the gambling process either as a result of the simplicity of the game or because the gambler can function using a low level of cognitive resources because of the level of practise they have had with a particular activity.
- (2) Low arousal - where the gambler is uninterested unless rewards are being distributed. In effect, the gambler is “waiting” for a win. In between rewards, the gambler may become bored, daydream and slip into a distracted or dissociated state.
- (3) Prolonged gambling - where fatigue inhibits concentration levels of gamblers who have been gambling for an extended period of time (usually while chasing). Exhaustion and weariness may perhaps facilitate dissociation.

If such speculation regarding gambling phases and dissociation is accurate, then this clearly has implications for a link between gambling form and level of dissociation. For example, the intermittent rewards and (often) simplistic game play offered by most forms of slot machine gambling may encourage more dissociative states. Then say, for example, online poker where players are consistently required to interact using a fairly high level of cognitive functioning such as arithmetic, behaviour evaluation and risk assessment. Of course, there are other ways in which game structure may have an impact on dissociation. A low event frequency, like in many forms of sports betting or the lottery for example, may inhibit dissociation since the “waiting period” may be too long and the gambler is forced into reality during the extended period of non-gambling. These are simply examples, and from such, it is already clear that if a link does exist, it will not be a simplistic one. Essentially, we propose that gambling form and level of dissociation is a possible relationship that

needs to be investigated. We would also suggest that further insight may lie in research comparing dissociation across gambling types where motivations for escapism may (at least in part) be revealed according to gamblers' choice of activity.

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## **Dissociation: A stress-related flight from reality into a rewarding altered state of consciousness.**

### **Overview**

Based on many years of clinical experience, Jacobs has proposed A General Theory of Addictions, using the compulsive/pathological gambler as the prototype subject.

Within this context, addiction is defined as "a dependent state acquired over time by a predisposed person in an attempt to relieve a chronic stress condition". Viewed in this light, addictive patterns of behavior may be conceptualized as deliberate, problem-solving, forms of self-management or self-treatment.

Addictive patterns of behavior may involve substances (eg. food, alcohol, other licit or illicit drugs), as well as activities including, but not limited to, gambling, overspending, work, sex, fire-setting, etc. Consequently, Jacobs has proposed that the extensive array of addictions be regarded as a single unified class of behaviors (Jacobs, 1982, 1984, 1985, 1989, 2001, 2004).

Optimally, the work reported here will stimulate further research to explore whether dissociative-like reactions are to be found in other forms of addiction, as well as high risk (potentially addictive) behaviors of adults and particularly juveniles.

For purposes of empirically testing this central feature of the General Theory of Addictions, evidence for experiencing a "dissociative-like reaction" was operationally-defined as a person responding to each of four questions about his or her subjective experience, during or immediately following a period of indulgence in a chosen addictive pattern of behavior.

The first question inquired about a blurring of reality testing (derealization): "After (activity noted) have you ever felt like you had been in a trance?". The second question referred to a shift in persona (depersonalization): "Did you ever feel like you had taken on another identity?". The third question was designed to capture an out-of-body experience: "Have you ever felt like you were outside yourself; watching yourself (doing it)?". The fourth question inquired about the presence of partial amnesia: "Have you ever experienced a 'memory blackout' for a period when you had been (doing the given activity)?" Note: In studies conducted after 1994 a fifth question was added. It inquired about an alteration in time perception: "Have you lost track of time while (doing the given behavior)?"

When responding to each of these questions, the subject was requested to stipulate that the experience had occurred: "never", "rarely", "occasionally", "frequently", or "all the time".

## **Experimental Evidence Lending Support for the General Theory of Addictions**

### Study 1. Comparing adult groups addicted to gambling, alcohol, and overeating.

In 1981 Jacobs and colleagues constructed a 61 item Health Survey to initiate a program of research to test selected aspects of the General Theory of Addictions. A central focus in these investigations was the extent to which different kinds of addicts shared a common set of dominant characteristics (ie. prevalence of operationally-defined dissociative reactions while indulging), that would argue for them being considered "a unified class of behaviors" (Jacobs, 1980, 1982). Over a four year period, applying a matrix approach, data were collected anonymously from known groups of compulsive/pathological gamblers (N=121), alcoholics (N=203), and compulsive overeaters (N=83), as well as a normative sample of adolescents (N=843) and adults (N=168). In all, more than 400 addicts and more than 1,000 normals were surveyed (Jacobs et al, 1985; Jacobs, 1989, 2001).

**RESULTS:** As predicted, moderate to high frequencies of each of the basic four dissociative-like reactions, noted above, were reported by each of the three addict groups. Compulsive/pathological gamblers and alcoholics consistently reported greater evidence of each of these reactions than did compulsive overeaters (p.01). Each of the three addict groups reported significantly more dissociative-like reactions on each indicator than did both normative groups (p.001). Normative groups reported dissociative-like reactions most when drinking, next when overeating, and least when gambling.

Adolescent high school students reported significantly more dissociative reactions when drinking than did the adult sample (p.01). Adults reported significantly more dissociative-like reactions than high school students while gambling (p.01).

These findings strongly support a central theoretical position that, when indulging, persons known to be addicted to different substances and activities will tend to share a common set of dissociative reactions, that clearly differentiate them from non-addicts. See slides #1-3 in the Appendix for a detailed portrayal of these comparative findings).

**CONCLUSIONS:** Consistent with the General Theory of Addictions, this set of dissociative-like reactions constitute the commonly-experienced altered state of consciousness that is held by Jacobs (1982, 2001, 2004) to be the end goal of all forms of addictive behaviors, regardless of the means used to attain them.

### Study 2. Comparing adult social and problem gamblers on reports of dissociative reactions and sensation-seeking behaviors.

Kuley and Jacobs (1988) studied adult groups identified as social gamblers (N=30) and problem gamblers (N=30), based on scores obtained on the Gamblers Anonymous Twenty Questions scale, wherein a score of 7 or more denoted a "problem gambler".

RESULTS: The problem gamblers answered "yes" to an average of 12.17 questions, compared to the social gamblers who averaged 1.90 affirmative responses (p.001). Responses on the Twenty Questions scale correlated highly with the frequency of gambling behavior (p.001), and with dissociative reactions (p.001). Problem gamblers reported a significantly greater percentage on all four dissociative reactions than social gamblers (p.01).

Significant correlations between dissociative reactions and the Gamblers Anonymous Twenty Questions indicate that those who reported more life problems on the scale, also tended to report a higher frequency of dissociative experiences. Moreover, responses to the dissociative questions were positively correlated with the number of days per week that subjects reported gambling (p.001).

CONCLUSIONS: A greater prevalence of gambling behavior is strongly associated with the greater incidence of dissociative reactions. Jacobs (1982) believes that dissociative reactions are related to the "high sympathetic arousal" that gambling behavior elicits, resulting in "physiological and neurochemical changes" which contribute to the dissociative state. In addition, the dissociative state allows pathological gamblers to free themselves from their collective stresses, and indulge in "wish-fulfilling fantasy" (p.10). This study offers the first documented evidence that adults who admitted to more real-life problems, as a result of their gambling on the Twenty Questions, also reported a higher frequency of four specified dissociative experiences.

Problem gamblers also scored significantly higher than social gamblers on Zuckerman's Total Sensation-Seeking Scale (p.01), as well as Boredom Susceptibility (p.01), Experience Seeking (p.01), and Disinhibition subscales (p.01). Sensation-seeking scores of subjects in this study also correlated significantly with the number of days they had reported gambling in the previous six months. Finally, the correlation between the Gamblers Anonymous Twenty Questions and Sensation-Seeking scores indicated that those subjects who reported a greater number of adverse consequences, as a result of their gambling behaviors, also tended to score higher on the Sensation-Seeking Scale. These facts also suggest that the frequency and range of dissociative reactions reported by problem/pathological gamblers can assist clinicians to differentiate between the pathological gambler and the social or occasional gambler. Indices indicating dissociative reactions also may be an effective screening tool for identifying not only pathological gamblers, but other types of addictive behaviors as well (Jacobs, 1985, 1986).

Study 3. A series of 5 independent research studies (1982-1997) replicating the prevalence of each of four operationally-defined dissociative reactions in adult social and pathological gamblers.

RESULTS: A detailed table portraying this data set is found in slide #4 in the Appendix.

CONCLUSIONS: These findings attest to the consistent and robust nature of significant differences in dissociative reactions experienced between adult social and pathological gamblers.

Study 4. A series of 8 independent research studies (1982-1997) replicating the prevalence of each of four operationally-defined dissociative reactions in adult pathological gamblers.

RESULTS: A detailed portrayal of this data set is found in the Appendix, slide #5.

CONCLUSIONS: These findings, replicated across several different countries, again attest to the consistent and robust nature of dissociative responses found among adult pathological gamblers.

Study 5. Study of traits leading to compulsive/pathological gambling (Jacobs, 1984), particularly examining responses to the four dissociative reactions reported by long time "recovering" adult members of Gamblers Anonymous (N=83).

RESULTS: Item: "After a gambling episode, did you ever feel like you'd been in a trance?" Eighty-seven percent admitted this had been so to some degree; 11% rarely, 38% occasionally and 38% frequently. Item: "When you gambled, did you ever feel like you had taken on another identity?". Eighty-five percent admitted this was so to some extent; 18% rarely or occasionally, 28% sometimes and 39% all the time.

Item: "While gambling, did you ever feel like you were 'outside yourself' - watching yourself gamble?". Sixty-nine percent reported this was so to some degree; 18% rarely, 28% occasionally and 23% frequently.

Item: "Have you ever experienced a 'memory blackout' for a period when you had been gambling?". Fifty-three percent answered yes to some degree; 15% rarely, 24% occasionally and 14% frequently.

These findings represented the first time such dissociative experiences had been systematically verified in a sample of long time recovering Gamblers Anonymous (GA) members, who had attended national conventions of GA in 1981 and 1982. This group of 71 males and 12 females (mean age of 48 years) reported they had been compulsive gamblers for an average of twenty-one years. The mean age of onset for gambling was said to be 18 years (range 6-43 years). Eighty percent were married and living with spouse, 18% were divorced or separated, and only 2% were single. Seventy-four percent were employed full time, 7% part time and 11% retired. Fifty-two percent had been in military service.

CONCLUSIONS: Theoretically, one of the most heartening findings about this remarkably stable and successful group of long time GA members was "the virtual disappearance of their complaints about experiencing chronic hypotensive states, once they were able to maintain abstinence from gambling". Apparently this particular group of GA members eventually had found alternatives to gambling, that permitted them to lead such stimulating and rewarding lives.

Family life was said to be the greatest source of gratification for those surveyed. Correspondingly, threats to family stability were cited as the most important reminder that their gambling was again slipping out of control.

Jacobs concluded from this study that the importance of marriage and family ties cannot be overstressed, and recommended that treatment programs for compulsive

gamblers should place a primary focus on helping those recovering to rebuild relationships with family and friends.

Note: The reader is cautioned that findings reported here cannot be assumed to describe the status of typical long time recovering GA members, nor do these data represent an authoritative profile of GA members throughout the United States.

Study 6. The first of several studies (1994-1998) determining the range of dissociative reactions among juvenile gamblers, who report progressively increasing problems with gambling on the South Oaks Gambling Screen (SOGS).

RESULTS: Juveniles (12-17 years of age) consistently reported progressively increasing percentages on each of five dissociative reactions, in direct relation to their admitting to increasing numbers of problems with gambling on the SOGS. Repeatedly, across three independent studies, these progressively increasing differences across "no problem" to "some problem", and finally to "problem gambler" were found to be significant at the p.001 level.

A detailed portrayal of these data is found in the Appendix (slide #6).

A line by line comparison of median scores on each type of dissociative response was made between a large number of adult pathological gamblers and a combined sample of probably pathological juvenile gamblers. (See Appendix slide #7 for these data.)

\*Also see slides #8 and #9 in the Appendix, recommending a weighted scoring key for the five dissociative reactions.

CONCLUSIONS: These three independent research studies make it dramatically apparent that juveniles respond to increasing numbers of problems with gambling by reporting progressively more dissociative experiences, indicative of their greater dependence on seeking an altered state of consciousness to deal with their increasing stress levels. Also striking in these data are (1) the consistent dominance of "losing track of time" among the five dissociative reactions presented and (2) the equally consistent secondary position of an altered state of identity in the fantasy life of these juveniles.

Finally, the most logical reason that adult pathological consistently dissociate more than juvenile pathological gamblers is simply that they have had many more years to practice this problem-solving skill.

This finding adds further critical support to Jacobs' General Theory of Addictions (1982, 1986, 1988, 1989, 2001) in revealing the deliberately learned, egosyntonic, skill-driven course of any addictive process, including problematic gambling. This explains why the original definition of addiction (Jacobs, 1982) gained an action verb, indicating that addictive forms of behavior are "self-induced" dependent states ... (See Appendix slide #10 for an elaboration of this important prediction).

Study 7. A large scale comparative analysis of high school age juveniles (N=844), some of whom described their parents as "having a problem with compulsive gambling" (N=52), compared with their classmates who reported no such gambling problem among their parents (N=792). Research conducted by Jacobs et al (1989).

RESULTS: Findings have been grouped into three major areas, listed as A, B, and C.

(A) Levels of involvement in health-threatening behaviors

Without exception, children of parents described as "problem gamblers" showed higher levels of use for tobacco, alcohol, and drug products during the past 12 months, than did their classroom peers with "average parents".

Children with problem gambler parents were involved in more moderate to heavy gambling (8% vs. 4%), and reported more gambling-related problems (29% vs. 14%), than their peers with average parents. Most striking was the discovery that 75% of those children whose parents were described as problem gamblers reported an age of onset for gambling before 11 years of age, compared to 34% of their peers with average parents.

Children of problem gamblers showed what may be inferred to be a greater drive to escape reality, and a greater propensity for seeking mood-elevating substances and stimulating experiences compared to their peers with average parents.

This has important theoretical, as well as clinical implications (Jacobs, 1986). Support for this interpretation is suggested by the manner in which the contrasted groups recalled their first experiences with a variety of potentially addictive substances and activities. Most striking was the consistently greater proportion of children of problem gamblers who remembered "with great clarity and completeness, like it was yesterday" their first experiences with gambling (13% vs. 5%), alcohol (25% vs. 19%), cocaine (15% vs. 9%), and overeating (27% vs. 7%). When asked to check off their primary goal when indulging in this list of potentially addictive substances and activities, all of these high school students were very much alike in choosing either stimulation or relaxation as their primary objective.

However, an alternative choice was a set of items related to "escape"; escape from "emotional tension", from "an unhappy home" or from a "humdrum life". Children of problem gamblers selected the latter set of items as their primary goal for indulging 20% more often than did their peers with average parents.

Studies by Jacobs et al (1985) and Kuley & Jacobs (1988) have shown conclusively that dissociative-like reactions are pathognomic among addicts of various types. When compared to their classmates with average parents, children of problem gambler parents reported these dissociative experiences 17% more often when drinking and when taking drugs, 49% more when overeating, and 18% more often when gambling.

(B) Incidence of psychosocial risk indicators

Across the entire range of these factors, children with problem gambler parents appeared to be at much greater risk of psychosocial issues than their classmates. They experienced almost twice the incidence of broken homes caused by separation,

divorce, or death of a parent before they had reached the age of 15 years (37% vs. 20%). They also reported a higher incidence of unhappy teen years (25% vs. 14%). Twice the proportion of the problem gambler parent group admitted that they had some kind of legal action pending at the time of the survey (10% vs. 5%).

Perhaps the most revealing of this array of risk indicators is that almost half of the children with problem gambler parents (42%) rated the overall quality of their youthful years as "poorer than most", in sharp contrast to 27% of their classmates with average parents.

### (C) Incidence of dysphoria and suicide risks

Without exception, children who described one or both of their parents as problem gamblers reported a greater incidence of factors reflecting anxiety and depressive mood. They rated themselves as more insecure than their peers (38% vs. 20%), more often reported "a poor mental state" (21% vs. 13%), and stated they felt "emotionally down" and "unhappy with life and myself" (25% vs. 11%). Dramatically underscoring the greater pervasiveness and seriousness of the combined family, health, and personal adjustment problems faced by children with problem gambler parents is the finding that their acknowledged attempts to commit suicide was twice that of their classmates with average parents (12% vs. 6%).

**CONCLUSIONS:** The results show a definite linkage between parental problem gamblers and elevated risks for dysfunctional behaviors among offspring raised in what may be termed "pathogenic families". The fact that marriages of gambler parents are highly disrupted underscores the instability of this child-rearing environment.

The results of this study indicate that children living with problem gambler parents are greatly disadvantaged in each of the three areas described in this investigation.

One cannot resist the conclusion that, without early and competent intervention, children of problem gamblers (a) will be seriously limited, when attempting to solve their present and future problems of living and (b) as a consequence are, themselves, high risk candidates for developing one or another form of dysfunctional behavior, including an addictive pattern of behavior.

### Study 8. An empirical test of Jacobs' General Theory of Addictions (Gupta and Derevensky, 1998).

**Subjects:** This study included 817 adolescents, 417 males and 400 females. The age range of these students was 12-17 years. The participants completed the DSM-IV-J, a screen for pathological gambling during adolescence, as well as the High School Personality Questionnaire, Zuckerman's Sensation Seeking Scale, Reynolds Adolescent Depression Scale and an extensive Gambling Questionnaire. The latter included a measure of Arousal and the Dissociative Scale, both developed by Jacobs (1988).

Based on the gambling questionnaire, the adolescents were divided into four groups. Group 1 had been non-gamblers (N=163) over the previous 12 months. Group 2 were occasional gamblers (N=414), who gambled less than once a week and obtained a score of zero on the DSM-IV-J. Group 3 were regular gamblers (N=175), who had gambled at least once a week, and who obtained a maximum score of 2 on

the DSM-IV-J. Group 4 were considered problem and pathological gamblers (N=65), who had gambled at least once per week and who obtained a minimum score of 3 on the DSM-IV-J.

Study Hypotheses: "If these adolescents were to validate Jacobs' general theory of addictions (1986), one would expect that problem and pathological gamblers will demonstrate abnormal physiological resting states, will report greater emotional distress, have a lower self concept, obtain higher depression scores, show tendencies towards being guilt-prone and insecure, report an unhappy childhood, and report greater levels of dissociation while gambling.

Similarly, they will be more likely to indicate that they gamble for reasons of escape and to alleviate depression, reflecting an increased skill (Jacobs contends that this is a learned skillful adaptive mechanism) in "escaping" from a chronic state of stress. Higher rates of regular alcohol and substance abuse comorbidity will also be found amongst problem and pathological gamblers. The importance of assessing the validity of this model for adolescents lies in its potential clinical and educational implications".

RESULTS: The findings from this critical and penetrating investigation, represented by a path analysis, provided a resounding endorsement of the validity of the general theory of addictions.

See Appendix, slides #11-17, for a detailed review of the results of the path analysis.

Study 9. Evidence for early childhood trauma in adult pathological gamblers and other addict groups (Jacobs, in press).

RESULTS: Five independent research endeavors in the US and Canada collected comparable data on these experiences, using a new instrument called the Jacobs Neglect and Abuse Questionnaire (J-NAP, 1999).

Across three studies a median of 88 percent of adult pathological gamblers (N=96) had recalled early childhood experiences of operationally-defined "serious neglect, physical abuse, emotional abuse, and/or sexual abuse" before reaching 18 years of age.

Detailed findings, citing multiple types of trauma and, particularly, recalling dissociation while the trauma experience was ongoing, are summarized in tabular form in Appendix, slides #18 and #19.

Components of a recommended multi-modal treatment approach are set forth in the Appendix, slide #20, with additional considerations concerning the likely presence of chronic Post-Traumatic Stress Disorder (PTSD) (slides #21-32), that should be considered in the treatment plan to reduce relapses.

CONCLUSIONS: Results provide strong support for Jacobs' General Theory of Addictions (1982, 1986, 2001). This had predicted originally that one common predisposing factor among addicts of all kinds were "experiences in childhood and early adolescence that had produced deep feelings of inadequacy, inferiority, and a pervasive sense of rejection by parents and significant others" (Jacobs, 1986, p.21).

The fact that the adult pathological gamblers in Study 9 consistently reported single and even multiple kinds of early childhood traumas, provides a tragic etiological indication of how (long BEFORE an addiction became manifest) the continuing effects of early childhood trauma(s) had likely affected the subsequent lives of these presently addicted patients. Special attention must be given to those who recalled dissociating at the time the trauma was ongoing, since there is a high probability that these persons may also be suffering from chronic PTSD.

Treatment personnel are urged to explore the likelihood of early childhood trauma among clients demonstrating any form of addictive behavior. Continued use of the J-NAP, or the amended Jacobs Neglect, Abandonment, and Abuse Protocol (J-NAAP, 2002) is recommended for routine clinical evaluations of addicts, as well as for juveniles and adults exhibiting other severe psychological maladjustments.

This concludes the selection of those nine research studies over the past 20+ years, that appear to be most related to the subject.

Dissociation is less a matter of static definition, and more a requirement of establishing a dynamic research application of its major manifestations, so that they can be systematically assessed. The major operationally-defined attributes, resulting from a dissociative process, characterizes the twenty year body of research that Jacobs and others has pursued.

Jacobs has observed that "dissociation is a many-splendered thing" (1989, p.48-49). According to his general theory of addictions, the dissociative-like process that results in a progressively altered state of consciousness (and typically includes a positively altered state of identity) is positioned on a continuum.

This continuum begins with normal attending and concentration (ie. psychological absorption) and occasional reveries. It then continues through "a middle ground", involving the more pronounced dissociative reactions attributed to addicts. The final end course of this dissociation continuum brings us to the extreme levels of psychological phenomena, such as functional fugue states and multiple personality disorders (Jacobs 1982, 1989, 2001).

Webster's New World Dictionary (1972) defines "dissociation" within a psychological context as (a) "a split in the conscious process in which a group of mental activities breaks away from the main stream of consciousness and functions as a separate unit, as if belonging to another person and (b) the abnormal separation of related ideas, thoughts, or emotions."

Dorland's Illustrated Medical Dictionary (1974) defines "dissociation" as "a defect of mental integration in which one or more groups of mental processes become separated off from normal consciousness, and thus separated, function as a unitary whole."

Jacobs claims that we are all familiar with dissociation. But instead of merely defining "what it is", he chooses to describe how, and under what circumstances, dissociation is used.

From his perspective, dissociation can be defined as "a normal innate ability, a sometimes automatic, sometimes deliberate defense we all use against distractions in everyday life. We also use dissociation as a defense, when high levels of

psychological distress, physical pain, or a sense of helplessness caused by a traumatic incident or a continuing aversive condition overwhelms a person's resources for coping with the stress it engenders.

"Functionally, dissociation permits a psychological escape from the offending reality circumstance, when other means for escape are blocked or unavailable. Thus, dissociation is used as a method for problem-solving" (Jacobs, 1998, p.4).

The General Theory of Addictions holds that a given individual's addictive pattern of behavior represents that person's deliberately-chosen means (ie. "vehicle") for entering and maintaining a dissociative state, while indulging.

For purposes of testing this central feature within the general theory, evidence for experiencing "a dissociative-like state" was operationally-defined as a person responding affirmatively to each of four to five specific questions about his or her subjective experience, during or immediately following a period of indulgence.

That said, I will now attempt to respond to the request seeking my considered views on how dissociation and problem gambling are related?

I have already set forth in length how my general theory has stimulated a line of research investigations that consistently have used my operational definitions of the MEASURABLE major manifestations of the dissociative process (ie. "dissociative-like reactions"), as assessed in large samples of juveniles and adults.

The majority of these studies involved assessing persons' dissociative reactions, while they were engaged in gambling activities.

I believe this constitutes my best reply to "what dissociation is?". It is not only directly related, but actually stimulated in progressive degrees, by gambling behaviors. The latter stimulating effect also confirms my considered professional opinion that, indeed, gambling has had measurable clinical influence across a very large proportion of juveniles and adults wherever in the world that ritual, social, and/or commercial forms of gambling exist.

These considerations lead directly to the matter of defining "problem gambling", and its clinical importance. Here too, we must consider a continuum of effects, from little or none to clinically-defined moderate to extreme levels of problematic gambling.

A number of gambling screens have attempted to suggest a series of "cutting scores" to denote these progressive levels of involvement in gambling. However, these screens are based on epidemiological data across large populations, and cannot be assumed to be more than sociological measures as distinct from clinically-accepted "diagnostic" determinations as applied to specific individuals.

Perhaps the most authoritative world reference to gambling-related difficulties is found in the American Psychiatric Association's current DSM-IV edition (1994). This sets forth a set of 10 criteria, solely meant for diagnosing adult "Pathological Gambling" (note that these ten criteria are all based on observable, rather than organic signs). Moreover, the criteria are subject to some change in forthcoming editions of the DSM.

The related assessment of juvenile gambling has tended to closely follow Fisher's DSM-IV-J criteria, as the most accepted current "diagnosis" for individual juveniles.

There is no clinically-accepted diagnosis for the popular inclusive term, "problem gambling" in either of the above DSM-IV based instruments (nor in any other similar source known to me).

Various academics, researchers, and clinical professionals have advanced arguments that "problem gambling" among adults and juveniles represents a level of gambling-related behavior, located somewhat below or slightly less inclusive of the full DSM-IV set of diagnostic criteria.

In some publications "problem gambling" is even considered a synonym for "pathological gambling", suggesting that both include a minority of more seriously-affected persons who participate in gambling activities (Jacobs, 2000, 2003, 2004).

Frequently, the two terms are blurred into describing individuals as "problem/pathological gamblers".

Thus, the term "problem gambling" is left open to scholarly debate.

However, a considerable body of world research leaves no doubt that measures of dissociation are inseparable from the activity of gambling, and (arbitrarily-designated) levels of increased involvement in this activity.

Your question about how dissociation and "zoning out" may or may not be related leaves me wondering.

I remain perplexed, because I know of no operationally-defined description for the term "zoning out", (or similarly, "being in the zone"). Clearly, these terms have a close relationship to the concept of dissociation.

Both refer to an altered sense of consciousness, which easily could score on each of the five dissociative-like reactions cited in the above research studies on gambling.

However, "zoning out" seems to represent the more colloquial term, describing much the same altered sense of consciousness experience as does dissociation. While understandably attributed to gambling, the experience of "zoning out" (like dissociating) can be experienced with any number of more than casual encounters with substances or other activities. As noted in the above discourse on diagnosis, both these terms have important clinical significance when applied to gambling behaviors.

The extensive section on gambling-related research, noted above, leaves no doubt in my mind that either of these phenomena are subject to explicit and highly relevant measurement techniques.

These have been applicable in many clinical research settings. Consequently, I recommend that the very same measures of dissociative-like states become part of large scale population studies of the Australian gaming public, as an innovative advance on the more typical gambling studies around the world.

## Implications for consumer education

I suggest that to augment the usual (often empty) pleas for the public to "gamble responsibly", I propose that the public receive well-published instruction on how to individually gauge the level of their own involvement in specific gambling activities by measuring the relative extent of dissociative-like reactions, accompanying each type of gaming (for instance, I would expect that purchasing tickets on the typical weekly lottery would "score" lower on these dissociation or "zoning out" measures, than a turn at VLT play).

## Implications for research

- I would first recommend Australian replication of the studies on juveniles and adults, summarized in the initial section of this paper. Do people continents apart respond in similar ways to gaming opportunities?
- Undertake benchmark (or at least repeated studies at 2-4 year intervals), population studies of participation in gambling to could assess changes in population findings a year or so after the introduction of new or altered gaming opportunities.
- Such studies could follow after a concerted consumer education campaign, aimed at reducing the prevalence of problematic gambling (note my suggestion above for a new approach to consumer education).
- My third research suggestion also would involve treatment efforts for "problem" and "pathological gamblers". Because of the unacceptably high relapse rates that follow today's typical treatment or self-help programs, I would strongly recommend a carefully-controlled, rolling assessment of 3, 6, and 12 month outcome evaluations for these various interventions with further funding dependent on favorable results.

In closing, I believe there is a primary need to spell out in both authoritative and operational terms just what is meant by "dissociation" and "problem gambling".

Merely having a consensus of views from recognized academics and practitioners in the field may well fall short of what the Australian Gaming Council is seeking for a combination of scientific, remedial, and political reasons.

Consequently, the several research studies I have summarized above were initiated and continued while guided by standard operational definitions of what "dissociative-like reactions" were understood to mean.

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# Appendix

## Dissociative Reactions, While Gambling, Reported by Compulsive Gamblers and Normals (N=1,132)

Dissociative Reactions	Compulsive Gamblers N=121	Normative Sample	
		Adults N=168	Adolescents N=843
Trance	79%	5%	2%
Different Person	79%	21%	5%
Outside Self	50%	8%	2%
Blackout	38%	4%	1%
Median	64%	6%	2%

1

## Dissociative Reactions, While Drinking, Reported by Alcoholics and Normals (N=1,214)

Dissociative Reactions	Alcoholics N=203	Normative Sample	
		Adults N=168	Adolescents N=843
Trance	62%	17%	29%
Different Person	73%	36%	39%
Outside Self	34%	12%	23%
Blackout	73%	15%	21%
Median	67%	16%	26%

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## Dissociative Reactions, While Eating, Reported by Compulsive Overeaters and Normals (N=1,094)

Dissociative Reactions	Overeaters N=83	Normative Sample	
		Adults N=168	Adolescents N=843
Trance	41%	5%	7%
Different Person	44%	21%	13%
Outside Self	30%	7%	10%
Blackout	14%	4%	12%
Median	35%	6%	8%

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## A Comparison of Dissociative Reactions Reported By Adult Social & Pathological Gambler

Dissociative Reactions ("occasionally" to "all the time" while gambling)	Jacobs 1982 N=168	Kuley & Jacobs 1988 N=30	Brown 1994 N=27	Lesieur & Rosenthal 1994 N=239	Hardoon et al. 1997 N=23	Median Social Gamblers* N=487	Median Pathological Gamblers N=640
Felt like in a trance	5%	16%	45%	16%	9%	16%	75%
Felt like a different person	21%	23%	34%	6%	9%	21%	67%
Felt like I was outside myself	8%	10%	10%	A%	9%	10%	49%
Experienced memory blackout	4%	4%	3%	1%	0%	3%	37%

\*Social gamblers responses covered full span from "ever" to "all the time"

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## Dissociative Reactions While Gambling Reported By Adult Pathological Gamblers

Dissociative Reactions While Gambling	Jacobs 1982 N=121	Jacobs 1984 N=88	Kuley & Jacobs 1988 N=30	Brown 1994 N=27	Hudak 1994 N=27	Lesieur & Rosenthal 1994 N=239	Derevensky & Gupta 1996 N=32	Hardoon et al 1997 N=11	Median N=640
Felt like in a trance	79%	76%	43%	81%	79%	59%	50%	73%	75%
Felt like a different person	79%	67%	54%	70%	68%	NA	56%	55%	67%
Felt like I was outside myself	50%	51%	33%	52%	56%	35%	47%	27%	49%
Experienced memory blackout	38%	38%	50%	44%	36%	23%	19%	0%	37%
Lost track of time	a	a	a	a	a	a	66%	82%	74%

a = not reported

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## Dissociative Reactions While Gambling Reported By Probable Pathological Juvenile Gamblers in Canada

Dissociative Reactions	Insight Research Ontario 1994 (n=17)	Wynne, Smith & Jacobs Alberta 1996 (n=77)	Gupta and Derevensky Montreal 1998 (n=65)	Median
Lost track of time	65%	75%	68%	68%
Felt like you were a different person	53%	29%	62%	53%
Felt like you were outside of yourself	29%	26%	42%	29%
Felt like you were in a trance	24%	27%	54%	27%
Experienced a memory blackout	12%	20%	14%	14%

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### Dissociative Reactions While Gambling Among Adult and Juvenile Probable Pathological Gamblers

Dissociative Reactions	Adult (N=729)	Juvenile (N=159)
Lost track of time	74%	68%
Felt like you were a different person	67%	53%
Felt like you were outside of yourself	49%	29%
Felt like you were in a trance	75%	27%
Experienced a memory blackout	37%	14%

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### Implications of Findings: Early Detection and Intervention

- A set of "red flag" items that early on reliably identify those at great or lesser risk for becoming problems or pathological gamblers.
- These red flag items all reflect the extent to which a person dissociates while gambling i.e. seeks to escape from reality stressors.

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### Implications of Findings: Refine Gambling Screens

Use the five "red flag" items in the Screen

#### Scoring of affirmative answers:

- Lost track of time 1
- Feel like a different person 1
- Felt like in a trance 2
- Felt outside of yourself 2
- Experienced memory blackout 4

#### Suggested scores:

- Scores 0 - 2 = no problem
- Scores of 3 - 4 = problem gambler
- Scores 5 or more = probably pathological gambler

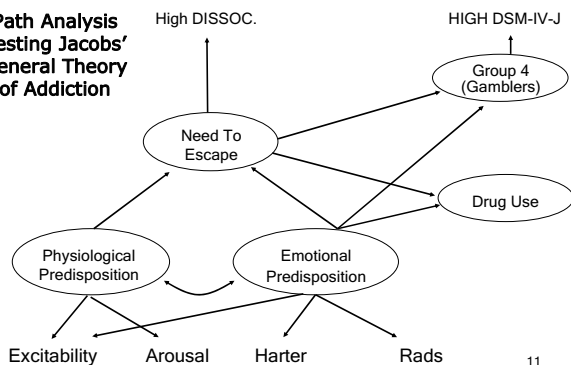
9

### Jacobs' Working Definition of Addiction

"A self-induced, dependent state, acquired over time, by a predisposed person, in an attempt to relieve a chronic stress condition"

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### Path Analysis Testing Jacobs' General Theory of Addiction



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### Results of Path Analysis

Strong support for the applicability of Jacobs' General Theory of Addictions for adolescent gamblers was obtained. Adolescent problem and pathological gamblers were found to have:

- Exhibited evidence of abnormal physiological resting states
- Showed evidence of greater emotional distress
- Reported greater levels of dissociation, and
- Reported higher rates of comorbidity with other addictive behavior

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**Results of Path Analysis**

"A Path Analysis testing a model adapted from the General Theory of Addictions was found to fit the data, providing impressive validation of the theory".

**Results of Path Analysis**

"The model tested shows a strong path from both the physiological and emotional predispositions, to a deliberate need to escape, to severity of gambling. Thus, gambling severity was empirically found to be caused by the need to escape, or dissociate, which is fueled by aversive physiological and emotional states. Gambling, therefore, according to the model and Jacobs' theory, is a solution, or coping response, albeit a negative one, to aversive life conditions."

Source: Gupta, D. and Derevensky, J.L. (1998). An Empirical Examination of Jacobs' General Theory of Addictions, Journal of Gambling Studies Vol. 14(1), 17-49

**Theory-driven Research**  
New Insights Re The Nature and Cause Of Addictive Forms of Behavior

**THEOREM I**

*Indulgence in the chosen substance or activity provides the addict with a ready ESCAPE from stressors, and entry into a rewarding dissociative state.*

**Theory-driven Research**  
New Insights Re The Nature and Cause Of Addictive Forms of Behavior

**THEOREM II**

*What the addict does is NOT his PROBLEM. Rather, it serves as his best SOLUTION for escaping his underlying problems.*

**Theory-driven Research**  
New Insights Re The Nature and Cause Of Addictive Forms of Behavior

**THEOREM III**

*Abstinence-directed forms of treatment are antithetical to the addict's aims.*

**Frequency Of Dissociative Reactions While Experiencing Childhood Trauma (N=144)**

	Early Childhood Traumas Reported	Multiple Childhood Traumas Reported	Most Frequent Trauma Reported (Emotional)	Dissociated While Experiencing Trauma
Adult Caucasian Pathological Gamblers (N=44)	80%	80%	83%	86%
Adult First Canadian Pathological Gamblers (N=35)	91%	56%	81%	75%
Adult First Nations Pathological Gamblers (N=17)	88%	93%	87%	100%
Adult Female Substance Abusers (N=16)	75%	83%	92%	83%
Juvenile Substance Abusers (N=32)	47%	33%	60%	67%

## Summary

### Findings support The General Theory of Addictions (Jacobs, 1986, 1989, 2001)

Common features across classes of addicts:

1. Higher levels of dissociative reactions among addicts than normals, while indulging
2. High incidence of early childhood neglect and abuse
3. High occurrence of dissociative reactions, while experiencing trauma(s)
4. Adult dissociators likely were early childhood dissociators, reacting to trauma(s)
5. Early childhood trauma is a high risk factor for later addiction

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## A Theory-Driven Multi-Modal Approach to Treatment of Addicts

The Approach Integrates:

### Following Initial Workup:

- Psychological and physical assessment
- Detailed developmental and social history (incl. JNAP)

1. **Stress management training**  
(to modulate abnormal arousal states)
2. **Combines dynamic and cognitive behavioral therapies**  
(to mitigate effects of early trauma)
3. **Targeted coping skill training**  
(to improve community adjustment)
4. **Re-education of significant others**  
(as support resources)

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## Symptoms of Post-Traumatic Stress Disorder

### I. Physical Symptoms

- Hypervigilance
- Exaggerated Startle Response
- Difficulty Sleeping
- Difficulty With Concentration or Memory
- Mood Irritability  
*Especially Anger and Depression*

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## Symptoms of Post-Traumatic Stress Disorder

### II. Intrusive Symptoms

- Recurring, Distressing Recollections (*Thoughts, Memories, Dreams, Nightmares, Flashbacks*)
- Physical or Psychological Distress at an Event That Symbolizes the Trauma
- Grief or Survivor Guilt

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## Symptoms of Post-Traumatic Stress Disorder

### III. Avoidant Symptoms

- Avoiding Specific Thoughts, Feelings, Activities or Situations
- Diminished Interest in Significant Activities
- Restricted Range of Emotions (Numbness)
- Dissociation

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## Guidelines For Outpatient Treatment of Chronic PTSD in Addicts

### Common Long-term Symptoms of PTSD

- Emotional numbing (anhedonia)
- Sleep disturbance
- Depression
- Anxiety
- Panic attacks
- Physical complaints
- Self-medicating arousal extremes
- Impulsivity
- Fantasy to counteract reality
- Amnesia
- Inflexible thinking
- Diminished self-care
- Low self-concept
- Re-enactment of trauma
- Irritability

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

**TREATMENT STRATEGY**

**I. Identify The Roots of Chronic PTSD**

Thorough assessment, including social history and J-NAAP, to identify aversive experiences before age 18, and (likely) onset of current addiction during adolescent years.

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

**TREATMENT STRATEGY**

**II. The Therapeutic Opening**

While reviewing client's history with him, be clear that you believe his addictive behavior is largely caused by, and continues to be driven by, the painful and disruptive effects of his early childhood trauma(s). Explain that, until he is able to face and deal constructively with these underlying problems, his addictive behavior will continue.

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

**TREATMENT STRATEGY**

**III. Therapeutic Course**

Frame each childhood trauma in light of the adult resources (self, significant others, the therapist, etc.) he now has for support in dealing with them.

Use whatever appropriate technique that re-establishes traumatic memories with full affect into full consciousness. Move no faster than the client's own pace.

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

**CAUTION**

Retrieval Phase must keep pace with client's capacity for integration and self-empowerment. Client's sense of loss of control will trigger dissociative reactions, relapse, or flight from therapy. It is critical that at the beginning of every session the client be asked how he's been since the previous meeting.

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

**CAUTION**

If reports of nightmares, flashbacks, panic attacks, acting out or self-medicating, therapist must discontinue retrieval process. Through psycho-education help the client to understand why intrusive material is being experienced at this time, and how to restore stability.

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**Guidelines For Outpatient Treatment of Chronic PTSD in Addicts**

"Trauma work is a dance of excavation, psycho-education, processing and integration" (Grant, 2002)

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### Recommendations For Treatment Providers

Treatment personnel are urged:

1. To include stress management training, coping skill acquisition, and significant others into their treatment plans;
2. To use the Jacobs Neglect, Abandonment and Abuse Protocol to identify the extent and nature of childhood trauma;
3. To combine dynamic and cognitive behavioral interventions to mitigate stresses engendered by early trauma experience;

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### Recommendations For Treatment Providers

Treatment personnel are urged:

4. To obtain training for treating Chronic PTSD in addicts;
5. Finally, to come to view addictive patterns of behavior as the addict's failed attempt at self-treatment of his deep-seated physiological abnormality and trauma experiences. Mental health professionals must systematically address these underlying causal factors, before treatment outcomes can be improved and relapse rates reduced.

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**Tim McCorriston**  
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Australia

## **1. What is the relevance of the concept of dissociation to gambling and problem gambling?**

This contribution is offered from the perspective of my clinical experience within the problem gambling treatment field. I have worked in the field for nine years as a problem gambling counsellor and supervisor of other clinicians. It is my intention to discuss the concept of dissociation from my viewpoint as a clinician. As far as possible, I will limit my commentary on definitions or accounts of research, as this is best left to the academics. For the most part, my views about dissociation are offered in relation to electronic gaming machine (EGM) play. Throughout this paper, my assumption is that problem gamblers are not an homogenous group, and that the ideas presented would only apply to a subset of problem gamblers at best.

Dissociative phenomena are understood to include disruptions to the usually integrated functions of consciousness, memory, identity and perception (DSM-IV-TR). Access to these functions becomes compartmentalized and inaccessible to conscious or voluntary recall (Steinberg, 1994). At the very mild end, experiential indicators can include things such as losing touch with activities or conversations in which you are engaged. At the more severe end, it might be experienced as feelings of detachment from yourself or the world, feeling that aspects of yourself or your environment are not real, feeling that you are observing yourself from a distance, or even 'losing' memories of tasks or conversations such as, how you got to be in a certain place, or how you came to be wearing the clothes that you are.

Within the problem gambling treatment field, practitioners commonly report that clients experience a range of milder dissociative type phenomena. My own clinical experience supports this. Furthermore, I have found it to be especially associated with Electronic Gaming Machine (EGM) players. There is a range of common client experiences that are reminiscent of dissociative phenomena. Clients typically report losing themselves during play; finding that they have been at a venue for significantly longer than they had previously realised; getting caught up in play and 'forgetting' to do important things such as pick up children from school; 'tuning out' from emotional pain; realising that during play they do not think about the things that worry or bother them; feeling mentally or emotionally blank when playing; feeling separate or split from themselves, for example, observing themselves going through the motions of play and feeling later that they were not fully in possession of 'control faculties'.

Taking a broader view, the theoretical construct of dissociation appears to underpin many aspects of problem gambling treatment culture. The concept even appears as the basis of various harm minimization proposals. Ideas such as on-screen reminder messages or the inclusion of clocks onto EGM display screens reflect the popular opinion that EGM players can lose themselves in play or lose touch with other cognitive functions such as tracking time or leaving the venue in time to keep appointments. These harm minimization strategies assume that EGM players need

help to stay in touch with 'reality', and that relevant information therefore needs to be pushed more prominently into their field of attention.

In my opinion, the concept of dissociation is highly relevant to problem gambling. As clinicians, we observe a connection between dissociation and problem gambling, and we welcome research that will expand our understanding of the nature of this association. If we can understand this relationship, then we are better able to appreciate the processes that occur for some clients. Practice can then be better informed, resulting in more effective treatment options.

As context to my views, the following is a brief account of some significant research to date.

There are a number of studies that give references to EGM players reporting dissociative type experiences. Diskin & Hodgins (2001) note that EGM players often report feeling as if they are in a trance while playing, oblivious to their surroundings, and often losing track of time when gambling, intending to play for half an hour and gamble \$20, but 'coming to' having spent multiple hours and hundreds of dollars.

Durand Jacobs (1988) developed a set of questions to assess whether gamblers experienced a 'dissociative like state' while playing. The questions asked whether, while playing, gamblers ever felt that they were in a trance; assumed another identity; were watching themselves from the outside or had memory blackouts. Jacobs found that compared to a normative group, problem gamblers were more likely to respond affirmatively to these items. These findings were supported by Gupta & Derevensky (1998), Wynne Resources (1988) and Brown (1996).

Further to Jacobs' questions, a number of studies have compared problem gamblers and occasional gamblers using the Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986). Brown (1996) found that 'addicted' gamblers identified with the DES dissociative experiences significantly more often than occasional gamblers. Brown found the DES items to be significantly correlated with responses to Jacobs' dissociation questions. Diskin (1999) found that while playing, pathological EGM gamblers reported more (DES) symptoms of general dissociation, and experienced a greater narrowing of attention than occasional gamblers.

Contrary to all of these findings, evidence from some studies have cast doubt on the link between dissociation and problem gambling.

Grant & Kim (2003) found that problem gamblers do not appear more likely to experience dissociative symptoms, as measured by the DES. Diskin & Hodgins (2001) compared problem and occasional gamblers using both the DES and Jacobs' dissociation questions and found that problem and occasional gamblers did not differ on DES scores and were only significantly more likely to respond affirmatively on two of Jacobs' items (memory blackouts and losing track of time). Contrary to the findings of Brown (1996), Diskin & Hodgins (2001) did not find any significant correlation between scores on the DES and Jacobs' questions. This suggests that dissociative types of experiences during play are not correlated with general feelings of dissociation.

In the same study, Diskin & Hodgins (2001) compared the ability of problem gamblers and occasional gamblers to respond to irrelevant stimuli during EGM play. The overall data indicated that problem gamblers and occasional gamblers did not differ

significantly in their ability to respond to external stimuli during play. However, there were some curious anomalies within Diskin's findings, which indicated that under specific circumstances, problem gamblers were in fact significantly less able to respond to external stimuli during play. This is further discussed later.

It would appear that the literature is detecting some elements of a dissociative experience with problem EGM players. However, the exact nature of this phenomenon is not yet clear. It would be highly informative to practice if we were to understand this phenomenon more precisely.

## **2. What does dissociation or 'zoning out' in relation to gambling describe? Are these the same or are they different?**

The literature on dissociation and problem gambling has neither achieved a snug fit between the two concepts nor a clear identification of how they relate. It is true though that some clear links have been established. Problem EGM gamblers do appear to engage in some type of dissociative process. However, it is difficult to draw firm conclusions about the nature of this link. Some studies clearly identify elements of dissociation while others do not.

A number of studies have found that problem gamblers who dissociate during play do not necessarily experience generalized dissociation outside of gambling (Grant & Kim, 2003). Similarly, problem gamblers appear highly difficult to distract during play, but not necessarily more 'dissociated' within their broader lives (Diskin & Hodgins, 2001). If the dissociation phenomenon only shows up during play, this could explain why the relationship is more commonly identified using Jacobs' self report questions, and why the more general DES measure is less likely to detect episodic gambling related dissociation (Grant & Kim, 2003). The question then arises as to why problem gamblers experience episodic dissociative type symptoms, particularly when they do not experience this outside of gambling.

Amidst all of this, to the naked eye of the practitioner it appears obvious that many EGM players do 'dissociate' or 'zone out'. If 'zoning out' can't be fully explained by the concept of dissociation, then how else do we explain it? It would appear that the relationship might be quite complex. While 'zoning out' may present as dissociation, perhaps its origins are different.

My sense is that problem EGM players use gambling as a way of escaping other life problems. To locate this within another body of literature, I would refer to it as an 'Avoidance-Focused Coping Style' (Rippetoe & Rogers, 1987). This is akin to Jacobs' 'state of altered identity' (Jacobs 1982). Jacobs noted that people with addictions use their substance or activity as a form of self-treatment in order to avert feelings of unhappiness, or the stress of a 'distasteful present'. This escape might derive from a dissociated state. Wynne (1994) similarly hypothesized that for EGM players, this dissociative type state could be experienced as positive by problem gamblers who seek distraction from life problems.

There are a number of studies that frame gambling related dissociation in terms of avoidance-focused coping. Shepherd & Dickerson (2001) found that EGM players with low control over their gambling were more likely to utilize avoidance-focused coping strategies to cope with situations involving controllable and uncontrollable loss. Similarly, and despite some methodological flaws, studies by McCormick (1994), Di Dio & Ong (1997) and Scannell et al., (2000) all generally indicate an

association between problem gambling and avoidance focused coping. Sharpe and Tarrier (1993) suggested that recreational and problem gamblers are set apart by the nature of their coping style, and that problem gamblers are less likely to have an adaptive coping style. Grant & Kim (2003) suggest that problem gambling related dissociation is simply an indicator of other life distress.

Interestingly, Greco-Gregory (2002) examined the link between trauma history, dissociation and gambling in female problem EGM players and found that problem gamblers reported more trauma related experiences when not playing EGMs, and more dissociative type experiences when playing. This finding supports that idea that the problem gambler's dissociation is episodic, and possibly more indicative of avoidance-focused coping than of a generalized tendency toward dissociation.

In relation to the problem EGM player, I believe that for the most part, the term 'dissociation' and 'zoning out' are loosely used to refer to the same thing. Again, my sense is that the descriptions are commonly referring to avoidant coping behaviour. For convenience sake, I will refer to this as 'avoidant dissociation', as distinct from 'regular' or 'pure' dissociation. The relationship between avoidant dissociation and regular dissociation appears unclear. To date I have failed to find any research that explains a relationship between the two phenomena. This may be a fruitful area for future research. If avoidant dissociation can be better understood, implications for treatment can then be explored. The idea of 'avoidant dissociation' is explored further below.

### **3. What is the clinical significance of dissociation or 'zoning out' with regard to gambling? Is it possible to measure the phenomena?**

In terms of clinical significance, the key questions are as follows. To what extent, and in what way, does dissociation affect gambling behaviour, and by what function might it contribute to problematic EGM play?

If dissociation involves disintegration of thinking and disconnection from aspects of the self, then it follows that when gambling, there may well be an impact on one's ability to make a comprehensive and integrated assessment of when to stop playing, when to slow down, when to cash in or possibly even when to know that it is time to go home and watch 'Desperate Housewives'.

If dissociation can present as a function of avoidant coping, then it may be the case that some EGM players experience dissociated play as positive. They may actively seek out EGM play to escape from their worries. A player may wish to hold on to this state of mind, and therefore extend their sessions of play. Moreover, a player may experience a pull to play at innumerable times through the day when they feel a need to avoid difficult emotions. If this is the case then it is clear that the dissociated state may mitigate or diminish the forces that would moderate one's gambling. Not only could a player be less able to discern when to stop, but they may be unwilling to stop and once again become re-associated with the worries that they wished to avoid. Put simply, the dissociation may be attractive, and also, it may obscure the forces that would otherwise moderate play. It is by these mechanisms that dissociation may contribute to problem gambling.

In terms of clinical significance, it is again very important to point out that problem gamblers would almost certainly vary greatly in the extent to which these factors are relevant. Problem gamblers are not an homogenous group. In my experience as a

clinician, there are many factors that can potentially drive a gambling problem. If these theories are correct, they would apply to a subset of gamblers at the most. Amongst that subset, there would again be individual differences in the significance of the dissociation factor.

To summarise the points made thus far, it has been suggested that many problem EGM players experience dissociative phenomena during play. It has been suggested that for problem EGM players, dissociation may be non-pathological and may present as a by-product of avoidant focused coping. This may be distinct from regular dissociative phenomena. It has been suggested that this dissociative experience may impair regulation of play and even attract some individuals into play. If this is the case, there are a number of treatment implications that become apparent. This is discussed below, along with broader observations regarding the general implications of dissociation for treatment and research.

#### **4. What are the implications for:**

- **treatment of problem gamblers?**
- **consumer education?**
- **research?**

#### **Dissociation and the Task of Therapy**

When clients experience dissociation, this can bear a significant impact upon the course of therapy. Therapy provides a forum and process for clients to explore new insights and to 'connect' with forces for growth and change. In most cases, therapy calls upon clients to explore new ways of thinking and being. In therapy, new perspectives can be elusive and difficult to grasp, let alone hold on to. The pull of established thinking and behavioural patterns can be strong. For therapy to convert to change, it is crucial that these new ideas are factored in when gambling decisions are actually being made. In simple terms this process requires the individual to integrate. The hallmark of dissociation is disintegration. Therefore, any discussion that promotes understanding of dissociative processes can potentially inform therapeutic practice so that problem gambling clients are better able to apply and integrate insights and learnings.

The following is a simple example. While there are varying states of client motivation, with most clients the clinician will recognize the presence of varying forces that compete for and against change. The urge to gamble may, for example, stem from a desire to avoid difficult memories of a past trauma or a difficult loss. In many cases this will be a long established default response. In therapy, the client and counsellor consider these forces while also exploring those that push for change. There are many factors that can motivate change; the desire to establish healthier coping strategies, the desire to be a more responsible parent or spouse, or perhaps the desire to stop punishing oneself. Therapy can help to breathe life into these motivating forces and consolidate them within the client. To gamble, the individual only needs to be in touch with one stream of their experience, in this case, the old and established desire to avoid the emotional pain. To regulate problem gambling, the individual is required to integrate the new perspectives and views, and apply them to their decision-making processes. This is a significant challenge that requires a presence of mind and an agile consideration of new perspectives. If dissociation is a factor, it needs to be considered so that clients can be assisted to maintain maximal access to their therapeutic advances at the moments that matter most - the decisional points.

## **Pathological and Non-pathological Dissociation**

Waller, Putnam & Carlson (1996) make the distinction between pathological and non-pathological dissociation. Pathological dissociation involves identity alteration, depersonalization and derealization. Non-pathological dissociation is simply a proneness to absorption in other 'imaginative' processes. It is probably true to say that individuals who experience pathological dissociation are less conscious of this state and relatively unable to control it, compared to non-pathological dissociation. This may have interesting implications in terms of avoidant dissociation. Given that coping styles are predominantly learned, if avoidant dissociation is a function of a coping style, then the likelihood is that it is non-pathological in nature, and that it is learned. Perhaps in turn it can then be controlled, or unlearned.

## **Control over Dissociation**

If avoidant dissociation is learned and controllable, then there are significant implications for treatment. Therapy can provide opportunities to guide clients to develop an awareness of their coping patterns, to explore adaptive alternatives, and to gradually increase their capacity and willingness to recognize the moments when they can apply alternative coping strategies.

Earlier there was reference to a study by Diskin & Hodgins (2001), who unearthed an unusual anomaly within their findings. These findings offer another useful piece of information regarding the question of control. Diskin and Hodgins (2001) examined the distractibility of EGM players during play. Participants were required to play an EGM, and to also respond when external LED lights were lit up at the base of the EGM screen. The researchers examined the effect that EGM play had on reactions to the LED lights. Participants were divided into two groups. For the 'baseline first' group, the first trial involved obscuring the EGM display, so that subjects only had to respond to the external LED lights. This established a reaction time baseline. For the second trial of the 'baseline first' group, the EGM screen was then revealed. Subjects were then required to play the EGM, but still respond as the external lights appeared. The second group was called the 'EGM first' group. For this group the procedure was reversed. Overall results showed that problem gamblers and occasional gamblers did not differ significantly in the speed of their response to the external LED stimuli. However, when the effect of task order was separated out, there was found to be a significant difference. In the 'EGM first' group, problem gamblers were found to be significantly slower in responding to the external stimuli. When playing EGMs, problem gamblers in the 'baseline first' group responded to the external lights ten times faster than the problem gamblers in the 'EGM first' group. Response times for the occasional gamblers did not differ significantly across the two groups.

These results suggest something very important about the nature of dissociation with problem EGM players. More specifically, the results have implications in terms of the controllability of this form of dissociation. For the 'baseline first' group, the dissociative effect of the EGMs was broken. It appears that the problem gamblers in the 'baseline first' group became primarily focused on the task of responding to the external stimuli. In other words, this overtook the EGM task as the focus of their attention. The implications for treatment are clear. While these subjects still experienced a narrowing of focus, the critical point to note is that their attention was able to be diverted from EGM play. These problem EGM players were able sit in

front of an EGM and be predominantly focused on something other than the EGMs. This illustrates that EGM related dissociation is controllable.

### **Episodic Dissociation**

If dissociation is episodic, then it is critical to understand when it does and does not occur. This knowledge may help to navigate treatment so as to both evade and manage the paralyzing influence of episodic dissociative states, and to make the most of the non-dissociated moments. If dissociation occurs during play, play-based strategies ideally need to be fortified against the effects of the dissociation. In other words, the presence of the dissociated state would need to be factored in to the design of strategies so that learnings can be applied at the critical (gambling related) decisional points. This might involve simple strategies to recognise the early stages of the avoidant / dissociative state, and to counter it using practised strategies. It might also point to the application of broader 'dissociation busting' strategies that could be imported from other treatment fields and applied to EGM play.

### **Treating Avoidant Coping**

If 'avoidant dissociation' is a useful construct in relation to problem gambling, then an obvious implication for treatment is the need to address coping styles within the problem EGM population. If EGM related dissociation is a by-product of avoidant coping, then perhaps in turn, therapeutic work around coping strategies may yield a by-product of reduced dissociation.

In my own practice I have found that it is critical to understand the purpose of the gambling behaviour. Many clients discover that gambling represents an attempt at a solution to other problems. Their gambling is frequently driven by the desire to avoid other troubling aspects of their life.

One of the key priorities of treatment is to gain insight concerning this coping strategy, and to develop more adaptive coping options. As the client develops their coping skills, they in turn experience direct relief of their primary problems. In turn the urge to gamble may become redundant. An examination of coping styles might promise significant opportunities for change.

### **Implications for Research**

Future researchers may consider investigating the relationship between dissociation during play, general dissociative tendencies, and avoidant-focused coping. This could clarify whether EGM dissociation exists primarily as a function of coping style. It may be useful to test the validity of the 'avoidant dissociation' concept.

It would be particularly beneficial to conduct this research in a way that also isolates the effect of comorbidities, as these are also likely to account for a component of EGM related dissociation (Grant & Kim 2003).

In conclusion, an increased understanding of these dissociative processes would also provide the basis for new hypotheses about treatment options. For example, if the concept of avoidant dissociation is useful in relation to problem EGM players, what is the impact of therapy that focuses on coping strategies? Can problem EGM players divest themselves of avoidant dissociative EGM play in favour of more

adaptive coping strategies? Are these individuals able to transfer to a new set of coping skills? Can there be a resultant decrease in gambling urge?

An increased understanding of EGM related dissociation could inform a range of treatment studies that in turn could enlighten treatment practice.

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## **Links between Learned Behavior and Addiction - Exploring links between Childhood Trauma and Adult Dissociation**

### **Preamble**

In the counseling and treatment of problem gamblers, it is crucial to have an understanding of the history of the client, and their predisposed tendencies, if treatment options are going to be successful. The reason a person is more predisposed to overindulgent/addictive behaviors like drinking, drugging and gambling as an escape mechanism can unlock vital information for both counselor and counselee.

### **Case study of Harry G.**

This study will follow Harry growing up in a small country town as part of a good family. The questions about how Harry entered a life of addiction may be a part of how the family interacts with itself and the environment or the way Harry's own personality is shaped by certain circumstances in life.

We will follow Harry through the Learning years and see his predisposition towards excess and escape. We see him as a full-blown addict then track his recovery through cognitive behavioral change.

Professor Ron Rapee from Macquarie University in New South Wales states that it is generally accepted that 40% of children are born with a high degree of emotionality. And therefore would be predisposed to anxiety.

Is this the answer to Harry's problem? Join with me as we explore the links between Anxiety and Compulsive Behavior.

Jacobs (1980, 1982) defined Addiction as a "dependent state acquired over an extended period of time by a predisposed person in an attempt to correct a chronic stress condition".

Well maybe in light of Jacobs' findings, Harry's addictive patterns of behavior can be seen as a form of self-management or self-treatment, or was Harry just trying to survive the only way he knew how to, because of a poor self-image reinforced by negative emotional issues in his small world?

Just how did Harry survive and how can we learn from his journey...

## The Concept of Learned Behavior as a Link to Addiction

There is a common saying among recovering addicts; "We are products of our past but not Prisoners of it; unless we choose to be."

All of us have been shaped and influenced by our past, involving our formative childhood years. That environment taught us how to think about ourselves and relate to all circumstances that we may experience throughout life.

Significant influences such as people become role models of the way we want to be or don't want to be. Love, acceptance, forgiveness and rejection are part of this process and have an enormous bearing on the shaping of self-esteem or poor self-image.

Family, school, relationships and the environment all rub up against one another developing in us certain coping mechanisms that right or wrong become part of who we are, our personality. But may also act as masking agents to protect the real you.

People who have difficulty managing emotional stresses that infringe on their little world often suffer from anxiety or depression and instead of confronting the real issues will use their learnt behavior skills to cope with the problem.

Escapism or dissociation is the most used skill by many addicts, because of their lack of ability to cope with these issues that may have been caused by past traumas, child abuse (physical, emotional, sexual and psychological) or dysfunctional family systems and poor role models.

The feelings of low self worth, insecurity, panic and rejection serve to compound and confirm their feelings of unhappiness, depression and anxiety. The only option is to escape this feeling by using one of the coping mechanisms that has been modeled and used successfully many times before. A habit emerges that is difficult to break and so embeds itself as an entity within the personality of the addict, which seems to activate itself unconsciously without a recognized thought process.

The only effective way in dealing with issues is to change the way you think and believe yourself to be. Psychologists call this Cognitive Behavior Therapy (CBT), computer technicians call it reprogramming. It's about thinking and acting right, making right choices and informed decisions.

It's the difference between self-esteem and ego; ego is trying to convince people you are better than you are, self-esteem is being happy with who you are!

Harry's problem was that he was always trying to please significant male figures throughout his childhood because of an absent relationship with his own father - but with every put-down or rejection, he emotionally buried those horrible feelings, because he was not taught to deal with them correctly, (most 8 year olds are not). Gradually over time all those horrid suppressed emotional hurts became his poor self-image and the filter for everything else that would come into his own little world.

How did Harry handle this pain?

He watched how his family dealt with life issues, drinking, drugging and gambling so he modeled the same and thought it was normal behaviour. Over time his desire to escape using all the coping skills he had learnt, became his addiction.

## Addiction

Addiction comes from the Latin word - *addicene*, meaning to be the slave of or in bondage to.

Jacob defines addiction as: “a dependent state acquired over time to relieve stress.”

He summarizes his theory in the following way:

“This author places primary emphasis on the presence of two interrelated sets of *predisposing* factors that are held to determine whether or not an individual is at risk of maintaining an addictive pattern of behavior. The first of these two sets of predisposed factors is: *a unipolar psychological resting state* that is chronically and excessively either depressed or excited.

This lifelong persistent state of either hypo or hyper-arousal is believed to predispose the individual to respond only to a rather narrow ‘window’ of stress-reducing, but potentially addictive substances or experiences, and to make the person resistive to other kinds of addictive behaviors.

The second set of predisposed factors is of a *psychological nature*. These reactions arise from social and developmental experiences in childhood and early adolescence, and convince these persons that they are inferior, unwanted, unneeded and/or generally rejected by parents and significant others. Indeed, this author holds that one of the essential reinforcing qualities that maintains the chosen addictive pattern is that, while indulging in it, the individual can escape from painful reality and experience wish fulfilling fantasies of being an important personage, highly successful and admired.”

- Jacobs, 1986 p. 17

Addictions serve the purpose of removing us from our true feelings and provide a form of escape. They help us avoid the real anxieties of life by disengaging us from reality.

Compulsive gambling could begin as an activity that stimulates or relieves anxiety but will eventually end up controlling the psychological needs that contribute to an addictive lifestyle: i.e.

- The need to escape from worry or anxiety
- The need to reduce guilt feelings
- The need to avoid pain or confrontation
- The need to be free of confusion
- The need to be a “normal” person

Sheila B Blume, Medical Director - South Oaks Hospital states;

Although pathological gambling has been conceptualized in several theoretical frameworks, it is widely understood as an addiction to the altered psychological state

experienced while the gambler is in action. This state is described as a high similar to the effect of a stimulant drug and also as a feeling of dissociation permitting an escape from worries.

## **Cognitive Behavior Therapy (CBT)**

To the psychologist, Cognitive Behavior Therapy (CBT) is the method used to help somebody change the way they act and think about themselves.

Blaszczynski (1998) says that; cognitions are mental activities such as thoughts, beliefs, attitudes, images and memories, which together form a person's schema or mental representation of the self, others and the world in general.

This then is why CBT is so helpful for the problem gambler, because their cognitions have been dramatically influenced and distorted by their life experience, such as the rejection and put-downs that Harry received as a child.

Many others have experienced past childhood abuse, mental, sexual, emotional, physical and spiritual. The child has been unable to deal with these experiences emotionally and has therefore buried them as bad feelings and hurtful, painful experiences.

As the child grows, more negative experiences are added to this long list, and over time it becomes compressed into a negative cognition called a "poor self-image" and through this poor self-image, everything that comes into their life is filtered, becoming distorted because the original perceived cognition is wrong.

CBT challenges this poor self-image by causing it to be viewed in the light of reality - reality reflecting the thought that "all men are created equal..."

In other words we live in a real world just as everybody else lives in a real world, we experience the same sights sounds and smells as everyone else. Therefore the imaginary world that controls our self-perception has been created in our minds, which have been influenced by our life experiences.

Changing the way you think about yourself then can totally change the way you choose to live. For Harry, his poor self-image was so painful that he had found a mechanism to escape it, wrongly thinking that was his only option. This allowed him to make wrong choices resulting in further rejection and a confirmation of his negative image.

Maclaine (1995) draws this concept out in the illustration of "the Bubble". Although we live in the real world physically, we at the same time live in and are greatly influenced by our own illusionary life, in the bubble.

## **Conclusion – The Link**

Professor Jacobs speaking at the 12<sup>th</sup> Annual Conference on Gambling Issues and Risk Taking in Vancouver 2003, states that;

A large number of addicts that come for counseling reported that as children they had been unhappy and depressed throughout childhood, not liking what important people in their lives did to them or failed to do for them. They wanted to feel loved, protected

and valued - but didn't and therefore an addictive behavior became self-induced over time to relieve their feelings of despair.

Many were heavily involved in substance abuse, giving them an altered state of mind and an escape from the pain and this dissociation became their road to relief.

Early trauma creates biological changes and studies indicate a strong link for Post Traumatic Stress (often not picked up in the treatment of addicts).

The Five (5) Types of Trauma:

- Loss and Abandonment
- Serious Neglect
- Physical Abuse
- Emotional Abuse
- Sexual Abuse

Prof. Jacobs commented that Emotional Abuse was the most prevalent and the most harmful. One Canadian research project showed that 81% of addicts had emotional abuse as their predominate factor.

When we have dissociation (a form of escape) at the time of trauma for the child, the child will generally show extreme levels of post traumatic stress. Another study showed that 92% reported emotional abuse as the dominant factor when clients report to counselors, with addiction being a form of failure to deal with real life experiences.

80% of all clients report one or more types of abuse but most scales indicated a higher level of emotional abuse.

Some common factors across different classes of addicts:

- High incidence of early childhood neglect and abuse.
- High occurrence of dissociation reactions while experiencing trauma.
- Present adult dissociations reflect early childhood dissociations reacting to trauma.
- High levels of dissociative reaction among addicts while indulging in their addictive behaviour.
- Early childhood traumas as a "risk" factor for later addictions.

Prof. Jacobs gives some recommendation for counselors when treating clients:

- Always explore the likelihood of childhood trauma
- Consider dynamic and cognitive behavioral interventions to mediate stressors engendered by such a history.
- Acquire further training for treating clients with chronic Post Traumatic Stress Disorder (PTSD).

Harry is just one of many!

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## **Dissociation and Flow in Pathological and Recreational Gambling**

According to Jacobs' (1986) General Theory of Addiction the experience of a specific set of dissociative symptoms differentiates between addicted and non-addicted individuals. Only addicted individuals such as pathological gamblers are posited to experience trance-like states, out-of-body feeling, amnesia, and positively altered self-perceptions. The theory posits a mechanism which causes dissociative experiences during any potentially addictive activity. The mechanism includes three components: (1) blurred reality testing which is caused by completely concentrating one's attention on series of specific here-and-now events; (2) reduction of self-criticism through an internal cognitive shift that deflects preoccupation with one's personal or social inadequacies (supported by the social setting which signals acceptance and encouragement of the addictive behavior) and (3) opportunity for complimentary daydreams about oneself and wish-fulfilling fantasies which, in turn, facilitate positively altered self-perceptions.

Jacobs (1986, 1989) found that addicted individuals such as pathological gamblers frequently experienced dissociation. However, these findings do not exclude the possibility that non-addicted gamblers also experience dissociation as, for example, suggested by findings from Diskin and Hodgins (1999). Some studies even found that pathological gamblers' levels of dissociation during gambling did not differ from levels of dissociation experienced by occasional gamblers (Diskin & Hodgins, 2001 with adults; Gupta & Derevensky, 1998 with adolescents) and normal controls (Grant & Kim, 2003). Moreover, a study examining the experience of Jacobs' dissociative symptoms in settings as disparate as gambling and various sports activities including mountain climbing, cycling, and soccer found that those symptoms were experienced across each of the settings (Wanner, Ladouceur, Auclair, & Vitaro, under review). However, pathological gamblers had higher levels of dissociation than recreational gamblers and athletes who, in turn, did not differ. Taken together with the finding that the experience of dissociative symptoms is rather common in everyday life (Bernstein & Putnam, 1986; Ross, Joshi, & Currie, 1990), these findings raise doubts regarding Jacobs' contention that only addicted individuals experience this psycho-emotional state and that it causes addiction. However, we assume that non-addicted individuals also experience dissociation and that addicted and non-addicted

individuals only differ in the extent they are motivated to experience this state or alternative states.

It has been suggested that the experience of specific psycho-emotional states can serve the regulation of general well-being and life satisfaction (e.g., Csikszentmihalyi, 1990; Jacobs, 1986). Thus, motivational differences may explain whether individuals experience dissociation or not and how frequently they do. Individual differences in motivation also may determine which type of psycho-emotional state is experienced during activities such as gambling. Alternatively to dissociation, individuals can experience flow in a wide array of activities such as sports (Csikszentmihalyi & Csikszentmihalyi, 1988). Csikszentmihalyi's (1975, 1990) Theory of Optimal Experience posits that flow occurs when the performer is totally connected to the performance and that it represents an optimal psychological state. When in flow an individual experiences a number of positive experiential characteristics of which enjoyment of the activity represents the core characteristic. Indeed, it has been found that pathological and recreational gamblers experience flow (Wanner et al., under review).

Although dissociative states and flow share the aspects of 'experiences of transformed time' (e.g., Diskin & Hodgins, 1999, 2001; Gupta & Derevensky, 1998; Jackson & Marsh, 1996) and feelings of 'things happen automatically' or 'like being in trance', findings indicate that they represent different and independent psycho-emotional states (Wanner et al., under review). For example, enjoyment of the activity has been found to be independent of dissociative states.

Dissociation and flow are posited to have very different roles in regard to emotion regulation and motivation. Specifically, the Theory of Optimal Experiences states that individuals who are intrinsically motivated (i.e., aspire fun) experience flow in recreational activities which, in turn, enhances their positive well-being. In contrast, the General Theory of Addictions (Jacobs, 1986) contends that addicted individuals who are characterized by enduring high negative well-being aspire to temporarily find relief from stress (i.e., escape) by means of dissociative states.

Flow experiences have been found to be linked to reduced stress and positive affective states (e.g., Han, 1988; Hull, 1991; Massimini & Carli, 1988) and high levels of fun strivings, whereas they have been found to be unrelated to negative well-being, escape and popularity strivings (Wanner et al., under review). In contrast, high levels of dissociation have been found to be related to high levels of negative well-being, escape and popularity strivings, whereas they have been found to be unrelated to positive well-being and fun strivings (Wanner et al., under review).

Only a single study investigated flow, dissociation and motivation across groups of pathological and recreational gamblers and various groups of recreational athletes (e.g., cyclists and soccer players). Wanner et al. (under review) found in a sample of 1113 college students that pathological gamblers had higher levels of negative affect, escape and popularity strivings than recreational gamblers and athletes who, in turn, did not differ. In contrast, pathological gamblers had lower levels of positive affect and fun strivings than recreational gamblers and athletes who, in turn, did not differ in this regard. A potential limitation of the study was that addicted and non-addicted athletes could not be differentiated because the question whether athletes can become dependent on physical activity still remains to be answered and valid measures and criteria to determine such a dependency are lacking (Hausenblas & Downs, 2002).

In summary, empirical evidence is in line with the assumption that addicted and non-addicted individuals experience dissociation and that motivational differences are linked to differences in the extent to which they experience this state. Addicted individuals such as pathological gamblers appear to be more motivated to escape negative well-being by means of dissociation than non-addicted individuals such as recreational gamblers. In contrast, non-addicted individuals appear to be more motivated to experience alternative types of psycho-emotional experiences such as flow in recreational activities than addicted individuals. To provide more insight into these links, future research may examine the longitudinal links between motivation, psycho-emotional states and addiction and whether such links also can be found in regard to other activities including the use of substances. Finally, future research may examine whether individuals who experience dissociation perceive their identity as being positively altered or whether they perceive their identity, for example, only different than usual. Jacobs' (1986) Dissociative Scale does not assess the quality of altered perceptions of the self.

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## **Conclusion – Dr Clive Allcock**

### **Where are we? Where do we go?**

Perhaps under the stress of reading all the contributions I have dissociated! Clearly I remain at least a little confused but through all the views expressed more threads of consistency may emerge.

Now is the moment to thank all the contributors for the time and thought put into their work. If anything I say in what follows seems critical it is not intended to offend but is merely offered, with respect, as part of the debate on this issue.

For debate is surely possible. Some differences of views, of emphasis, and of definition are evident across the pieces and complete agreement on all points is not possible.

I will briefly work through each contribution to emerge with what I, rightly or wrongly, feel are the relevant points and then summarise with my conclusions. Some studies are referred to by a number of authors (Jacobs for many publications, Diskin and Hodgins, 1999 and 2001, Grant and Kim 2000, being examples) and I shall not always repeat the reference in relation to each author's work.

### **Delfabbro**

This writer brings in the matter of loss of control defined by gambling more or longer than intended and raises the essential point of whether this lack of control is attributable to being in a dissociated state.

However, he goes on to express the view that whether one would be able to describe gamblers as experiencing a genuine dissociative disorder remains unclear. Such experiences would need to occur frequently and outside the arena for a diagnosis of a true dissociative disorder to be sustained. As a number of studies cited throughout this volume mostly show pathological gamblers not scoring highly on the DES this would seem to suggest some unique state is sought or achieved by the gambling activity. He also comes down to the view that dissociation-like symptoms are experienced more by pathological gamblers than regular players.

### **Jacobs**

The body of work contributed to this field by Jacobs is most significant. He has been and remains at the forefront of promoting and pursuing the connection between dissociation and gambling as he sees it, both providing and inspiring a tremendous body of work that all in the field must be aware of.

I would like to express some thoughts I have had about his work over the years as thoroughly summarised in his article here.

The questions are very direct but lack some precise information that would be useful and perhaps may be modified in future research. For example, if I felt I was in a trance while gambling, a relevant issue is how much of the time? If I was occasionally in a trance was that occasionally at each time I gambled or all of occasional times that I gambled (e.g. in one of five occasions the entire episode felt like I was in a trance)?

These refinements are relevant, especially relating to “loss of control”. I may remember going to get money from the teller machine, or pulling it out of my wallet, but be vague or trance-like about the repetitive process of playing. Or I may be absorbed or focused on waiting for the special feature (a double-up, free spin or jackpot) and uninterested in the rest.

Another factor has always interested me with some of Jacobs’ findings. Looking at study five and question one to begin with, he reports 87% reporting trance to some degree. Therefore, 13% never experienced this. If one reversed the scoring method we note 11% rarely and 38% occasionally experienced a trance - which in itself is unclearly definable. But this gives 62% who occasionally to never experience this. Similar juggling gives 61% never to occasionally taking on another identity, 77% never to occasionally being outside themselves and 81% never to occasionally having a memory blackout - this latter again sometimes hard to define and may mean just a vagueness to some - “I forgot how much I was losing but I knew I was losing” - to a complete blank “I had no idea what I had lost until the bank statement came in”. Clinically this latter is a rare report, the former comment is heard much more often.

But despite some possible discussion as to what the findings may reveal in details Jacobs has clearly established that some process of variation of awareness is associated with a number of people having gambling problems.

### **Garcia and Blaszczynski**

These authors note the difficulty in defining dissociation - a very common call. They broaden the discussions by referring to trait-like typology relating to fantasy, boredom proneness with a genetic component and no necessary relationship to trauma (again the debate on that point).

These authors confound the picture more, but realistically, by bringing in personality as a multi-dimensional entity relating to various activities appealing to some types more than others - perhaps reflecting a vulnerability. They are critical also of the DES in the sense of asking what it actually measures and they also note with reference to Jacobs’ questionnaire that “reliability and validity data are not available”.

However they agree on there being a strong correlation between Jacobs’ questionnaire and the DES. Again there is the question as to whether people gamble to escape by narrowing their focus which they point out would not be dissociation but absorption in the chosen activity. Strong person/machine interaction may provide an unthinking escape through habituation.

It is worth adding that clinically a number of gamblers do report favouring a particular machine or type of machine. When asked why, it usually relates to features such as double-up or free spins that they feel (mistakenly) they have more skill at or have been kind to them in the past.

They cover Diskin and Hodgins' research as examples of work suggesting all gamblers may "dissociate" to some degree and this does not always help separate out problem gamblers from recreational.

In a thorough review of the literature, introducing other factors such as withdrawal symptoms and the question of age and gender adding to the mix (women and children dissociate more, yet most studies are on middle aged males) they conclude with the clarion call for more research to clarify these matters!

### **Griffiths, Wood, Parke J and Parke A**

Further concerns are raised about the definition of dissociation and the need to differentiate between this (whatever it may be) and distraction, both possibly being at opposite ends of the spectrum.

Also the question of causality - these authors see dissociation as part of addiction but ask if it is the cause (people dissociate and gamble more) or the consequence.

The main studies are referred to but Griffiths adds in one of his own using the "thinking aloud" method suggesting pathological gamblers stop thinking with their minds blank more than other gamblers. Dissociation?

They note the lack of research and theory in this field and ask if there is a link between types of gambling activity and the level of dissociation with a greater possibility of a higher level of dissociation on machine gambling.

### **McCorrison**

Again a clinical contribution but much of the relevant literature is incorporated. McCorrison reports clients experiencing "a range of milder dissociation type phenomenon".

Interestingly, he makes the astute observation that there is already a "presumption of dissociation appearing to underpin many aspects of problem gambling treatment cultures" as well as harm minimisation. He supports the association.

McCorrison introduces another approach to the problem - the Avoidance Focused Coping Style (Rippeto and Rogers 1987) and ponders whether what is seen is avoidant dissociation versus regular or pure dissociation. Dissociation is seen as "attractive" and may "obscure the forces that would otherwise moderate play" - again for a subset of gamblers only. He feels this dissociation is a by-product and non-pathological, can be learned and gives the view that it can be controlled. That would be a focus of treatment clearly. On returning to the Diskin and Hodgins paper he argues from the findings that EGM dissociation is controllable.

### **Carter**

Carter grounds us appropriately in clinical results. He equates dissociation with escapism as a way to avoid confronting issues that may be related to past trauma.

The issue of whether one needs to dissociate, clearly using a broad definition of dissociation, or whether dissociation is a by-product of the gambling seems to be favoured by the former choice in Carter's view.

Again one of the difficulties with this stance is - is this the case for all gamblers or only a sub-section? And for all authors who utilise the trauma - dissociation model as noted in my introduction, debate occurs on this point and the pathway is not universally accepted. Kihlston (1) opines that findings for a number of reported studies “cast doubt on the link between dissociation and self reported trauma”. He has even gone so far as to suggest that dissociation should become “a purely descriptive term referring to disruption in conscious awareness” and that we should abandon both dissociation and conversion as psychodynamic labels for pathological processes or psychological defence mechanisms.

So the model supported by Carter and other authors here may well be applicable to some gamblers, but it is important to be aware such views are contested.

### **Wanner, Ladouceur and Vitaro**

New work is introduced into the equation. These authors report either in press or under review on studies extending the questionnaires into new groups with some intriguing results.

Using Jacobs’ questions across a variety of settings involving competition and focus, positive responses are returned but there are differences of degree across groups with pathological gamblers having the higher scores.

They also challenge dissociation as a causative factor. This paper introduces the work of Csikszentmihalyi on “Flow” and the desire to seek an “optimal psychological state” while reporting that all gamblers experience “Flow”. Contrast is made between the theory of Optimal Experience and the General Theory of Addiction with the Flow experience being unrelated to negative well being while addiction and dissociation are more related to modes of thinking and feeling - a desire to change negative well-being using, at times, dissociation.

### **Summary and Conclusion**

As an overview I find myself asking at the start of this section - where is chasing?

Little if any reference is made to this aspect of problem gambling, yet it features clinically very strongly as a motivation to continue. Granted, the question was asked to look at dissociation and gambling, but is the lack of analysis of a conscious decision to bet more implying that “dissociation” means there is no control, all is done in a haze and certain vulnerable people walk into the gambling arena and almost immediately enter a haze that means there is no control over their gambling?

I do not think this is intended by most writers, but the intermingling of conscious and haze aspects in this decision-making clearly requires more research and more thought. Clinically, I find even the small percentage who say “I do not know what comes over me” when questioned as to reasons for starting to gamble, or continuing to gamble will list winning money as a priority - even if only to stay in the game. Accepting as McCorriston has noted some assumptions are made by industry and others that “dissociation” is a factor, clearly, with CBT being the current gold standard an assumption is also made by the “treating” industry that conscious, cognitive assessments can and should be made to lead to behavioural change. Chasing is a cognitive choice, made, admittedly, under pressure and pain of losses, that one will continue to gamble. This may continue until the last shot is fired in the battle with the

machine (or bookmaker, or casino), which means the last available dollar is spent and there is no chance to recoup losses at this point in time.

But why do some continue and most stop at a certain point of loss? We know from Prospect Theory (Kahneman and Tversky)(2) that the pain of a loss is experienced two to three times more acutely than the joy of a win. If you entered the gambling arena expecting to change your mood state even if only from unhappy to relatively less unhappy by gambling, or expecting to win because of unrealistic cognitions, the fact that you are losing means you have failed on both requirements - mood and money. Some more vulnerable people may succumb to these pressures and chase but are they doing so mindlessly, dissociatively, in partial awareness or full awareness?

This will vary from person to person and highlights an emotional understanding that may explain the range of findings and of views.

Gamblers are not one group, they are not an homogenous gathering. People turn to gambling and may develop problems for many reasons. Right from the time of Moran (3) through to (more recently) Blaszczynski, some writers have proposed types of gamblers and whatever researcher you subscribe to a clear message is this differentiation.

Returning to dissociation, Kihlstrom echoes comments I have heard many times over the years when he observes dissociation has had a vogue adherence from the 1980's onwards, but is still controversial and now challenged more than perhaps was the case twenty years ago.

He refers, of course, to the extreme example of Dissociation Identity Disorder, but when you move away from that what remains?

A very unclear concept is what remains. It is perhaps covered by the non-pathological dissociation category proposed by Putnam and Carlson, but clarity still eludes us. Various writers here have used terms such as dissociation, dissociation-like, altered state of consciousness, distraction and absorption. Even the "zoning out" idea could be seen as one of the above or some different condition.

Now, in keeping with more of the challenges to dissociation, recent research reports that non-troubled populations acknowledge similar findings of "altered awareness" (to pick one of the labels - it being the one I most like!), although the intensity or duration may differ between those with and those without problems indulging in the same activity.

Finally, conclusions!

- There seems general agreement that some problem gamblers experience some type of "altered awareness" more intensely than others.
- It remains unclear how or if this state contributes to the problems - the direction of causality is debated dependant on a writer's view.

Other aspects of this which are not discussed in detail are:

- the role of alcohol. Some 20-40% of gamblers may have a problem with alcohol and this could affect “loss of control” and eliminate the good intention to stop at a certain loss level.
- the role of conscious decisions to chase. What if one makes a conscious decision to get more money and chase, but while playing (especially on machines) becomes more automaton-like waiting for wins or features, but is clearly “aware” when making the decision to continue? This would lead to positive answers to questions such as “ever feeling like being in a trance” but would leave the explanation of loss to other factors (bad decisions or desperate chasing).
- fatigue. Most problem gamblers play for prolonged periods. This may be precipitated by chasing but as fatigue sets in “altered awareness” contributes to worsening problems.

I deliberately set out my views at the beginning as this diverse field can excite debate quite passionately. In doing so I have my biases on my sleeve and have tried to quell them as I read and commented. An open mind is possible!

So I would particularly salute the work of Jacobs for opening up this field and contributing so much. I would encourage those wishing to explore the dissociation hypothesis to continue.

I believe the jury is still out. Perhaps some gamblers do get lost in a haze that may even come close to pathological, or may be a significant factor in their problems. But more questions need to be asked. Whether using “thinking aloud” approaches along with more intensive questions that go beyond just reporting trance states, gamblers need to be asked what that means. How long do the states (looking at oneself etc) last for those reporting experiences, do they affect decisions and what are the range of influences affecting decisions? And being mindful of this crucial issue is needed in real life situations. What are the reasons for decisions being made?

Do some forms of gambling create more “altered awareness” states? Machine gambling is most featured here, but twenty-five years ago horse racing predominated my appointments. Did these people “dissociate”? It was rarely covered - winning back losses predominated. Now with greater accessibility in Australia machine problems make up 85% of those seeking help, yet there are suggestions the number of problem gamblers has not actually increased - merely choosing machines over animals. If this is so does this mean people are seeking rapid play of a machine to narrow focus, to distract from worries or is it simply that they are now there in the local “pub” (since about 1996) and are easier to play than the races?

Clearly more questions are raised than are able to be answered at this time.

So let me return to the questions asked of our experts.

- 1) The relevance of the concept of dissociation to gambling and problem gambling.

As elaborated above, no clear answer has emerged to this question. I am aware in saying this that some will disagree feeling the matter well established to their own satisfaction.

But I can only reiterate my view that this is not clearly scientifically established, knowing that view will not please or satisfy all. To support this stand I will cite:

- a. the enormous uncertainty about defining dissociation - a situation clearly not limited to the gambling;
- b. the uncertainty about the type of altered awareness;
- c. the uncertainty about the direction of causality; and
- d. the central issue of why some people continue to gamble and the question as to whether they are “mindlessly” throwing money away, or purposefully chasing losses.

My clinical experience says it is mostly the latter, although the former may be influential to some degree for some people some of the time.

I believe we have underestimated the power of the pain of the loss as suggested by Prospect Theory. Many patients tell me they gambled everything because they could not walk away expecting the machine to pay or letting someone else win their money. Losing everything meant they had done their best to win back the losses and restore financial and emotional equilibrium. When all the money is gone the decision is out of their hands.

So a summary on this point, taking a balance of the experts' views would be: dissociation may be of some relevance but other factors need to be weighed into our understanding of gambling behaviour leading to problems.

2) What does dissociation or zoning out describe; is it clinically significant?

I think this is answered above by the uncertainty. We simply do not know exactly.

3) What are the implications for:

a. The treatment of problem gamblers

If we accept the group presenting for help is heterogenous then we need flexibility in our approaches.

With CBT models being predominate in the thinking of many, the focus should be to challenge cognitions and assist in altering behaviours. We continue to focus on cues and ideas that contribute to the urge for the individual to consider gambling and then make that choice.

But it is a choice. It is a choice made under pressure of habit, pressure of past losses and pressure of self image perhaps (I am the hopeless gambler, that is what I do).

If appropriate we can go further. Should a patient, on thorough investigation, be showing clear signs of poor awareness of their behaviour, techniques focusing on creating more awareness (mindfulness) and de-conditioning can be applied. These would include imaginal disintegration and/or meditation training.

Clearly external measures to break the pattern such as self exclusion, control of finances by a partner or a government agency may contribute to breaking the pressures to continue to gamble.

#### b. Consumer education

Along with the now almost worldwide publicity about the possibility of having a gambling problem, notices may wish to advise that long periods of gambling can lead to fatigue, to greater losses, and that if patrons find they are playing on “automatic pilot mode” their losses could be greater than they think.

Perhaps as useful, although a more complicated message to convey, would be the warning that gambling is not a healthy way to forget about problems as excessive gambling must create more. Losses will mount in the long term as the percentage always dictates this. So if people find they are seeking gambling to significantly alter their mood, this action is not the skilful choice.

One reason why this may be hard to convey to the community is that gambling is for entertainment which clearly involves an alteration of mood, a relaxation for all.

The difficulty arises in trying to help the community understand that gambling is a) not about making a regular income despite occasional wins and b) should be limited in time and money as any form of entertainment is. So the warning signs would be more frequent and costly visits to the gambling arena and the increasing desire to go there perhaps to win, perhaps to escape and seek excitement, perhaps some combination of both.

For some experts the “escape” factor may be seen as dissociation, but as evidenced in this volume, not all would agree.

#### c. Research

More is needed, and more that goes deeper than questionnaires, useful as they are for pointing to particular directions of explanation.

We need to go beyond noting reports of vagueness and get the details of what this actually means to different individuals. The pivotal questions of automation versus choice remains unanswered, but perhaps it always will be in that some (maybe a minority?) have more automaton tendencies and others more decision making features, albeit under strong pressures to continue gambling to win.

#### d. And for industry

Because of the uncertainty revealed across the views and throughout the literature it would seem to me to be unrealistic to make solid suggestions to industry for significant change at this time.

To my reading not enough that is evidence based and agreed upon is able to be linked to further changes and reactions beyond those currently in place, at least in most of Australia.

Given the evidence pointing to some form of altered awareness, measures such as clocks in gaming arenas should, in theory, assist to bring an element of reality back. But again we do not know how much of the decision to continue gambling is a decision to chase versus an unawareness versus absorption/distraction versus some combination of these.

And here is where industry may be able to assist. A fuller understanding of the process of decision making will only be well understood with more in situ research. Acknowledging that patrons may not like to be asked questions, and many will refuse, industry tolerance and support of some occasional and well credentialed researchers working at the coal face can only advance the understanding.

## References

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