

AUSTRALIAN JOURNAL OF CLINICAL AND EXPERIMENTAL HYPNOSIS

November 1996

Volume 24 Number 2

EDITORIAL	iii
PROBLEM GAMBLING: TREATMENT STRATEGIES AND RATIONALE FOR THE USE OF HYPNOSIS AS A TREATMENT ADJUNCT Greg J. Coman, Barry J. Evans, and Graham D. Burrows AO	73
TYPES OF HYPNOTICALLY (UN)SUSCEPTIBLE INDIVIDUALS AS A FUNCTION OF PHENOMENOLOGICAL EXPERIENCE: A PARTIAL REPLICATION Elizabeth J. Forbes and Ronald J. Pekala	92
THE USE OF HYPNOSIS WITH DERMATOLOGICAL CONDITIONS Patricia Burgess	110
HYPNOSIS IN THE MANAGEMENT OF PAIN OF ORAL MUCOSITIS ASSOCIATED WITH HIGH DOSE THERAPY FOR CANCER Norman Shum	120
TRAUMA AND TREATMENT WITH HYPNOSIS David Willshire	125
SELF-EMPOWERMENT AND THE 15-MINUTE SOLUTION Harry E. Stanton	137
CASE NOTES	145
BOOK REVIEWS	149
BOOKS AVAILABLE FOR REVIEW	153
INDEX 1993-1996	154

**AUSTRALIAN JOURNAL OF
CLINICAL AND EXPERIMENTAL HYPNOSIS**

Copyright © The Australian Society of Hypnosis Limited 1996

EDITORIAL BOARD

Editor

Barry J. Evans, PhD, Monash University, Victoria

Associate Editors

Greg J. Coman, MSc, Austin and Repatriation Medical Centre, Melbourne

Kevin McConkey, PhD, University of New South Wales

Robb O. Stanley, DClinPsych, University of Melbourne

Graham Scott, BDSc, BBSc, Melbourne

Wendy-Louise Walker, PhD, Sydney

Editorial Consultants

Peter B. Bloom, MD, Institute of Pennsylvania Hospital and University of Pennsylvania

Graham D. Burrows, AO, KSJ, MD, ChB, BSc, DPM, FRANZCP, FRCPsych,
University of Melbourne

Harold B. Crasilneck, PhD, PC, University of Texas Health Science Center,
Southwestern Medical School, Dallas, Texas

Frederick J. Evans, PhD, Carrier Foundation and UMDNJ
Rutgers Medical School

Fred H. Frankel, MD, ChB, DPM, Beth Israel Hospital and Harvard Medical School

Ernest R. Hilgard, PhD, Stanford University

Martin T. Orne, PhD,

Institute of Pennsylvania Hospital and University of Pennsylvania

Campbell Perry, PhD, Concordia University, Montreal

Peter W. Sheehan, PhD, University of Queensland

Editorial Assistant

June Simmons

**FEDERAL EXECUTIVE OF
THE AUSTRALIAN SOCIETY OF HYPNOSIS LIMITED**

President: Dr Wendy-Louise Walker (New South Wales)

President-Elect: Dr Len Rose (Victoria)

Past President: Mr Robb Stanley (Victoria)

Federal Secretary: Dr Mark Earl (South Australia)

Federal Treasurer: Mr Greg Coman (Victoria)

Chairman — Publications: Dr Barry Evans (Victoria)

Chairman — Board of Education: Mr Robb Stanley (Victoria)

ISH Representatives: Dr Graham Wicks (South Australia)

Dr Barry Evans (Victoria)

ASH Federal Secretariat, Edward Wilson Building,

Austin and Repatriation Medical Centre, Austin Campus, Heidelberg, Victoria 3084

Fax: (03) 9459 6244 Tel: (03) 9459 9404

Manuscripts and editorial matter should be addressed to the Editor, Dr Barry J. Evans, at the above address. All journal business communications and subscriptions should be addressed to the Editor.

EDITORIAL

Have you, in your clinical work, seen clients who present with some or more of the following symptoms: headaches, arthritis, low self-esteem, overweight, anxiety, depression, having a preference for baggy clothes, drug or alcohol abuse, daydreaming, no interest in, or preoccupation with, sex, and being scared to be alone? Writing in the San Diego Union Tribune, staff writer Mark Sauer reported that, according to several popular US therapy books, the presence of these symptoms always indicates childhood abuse of the client. It is true that abuse survivors often do have some of these symptoms — however, one error in the current repressed memory debate is the therapist thinking that these symptoms reliably indicate sexual or other forms of childhood abuse. The therapist's beliefs become the underlying basis for therapy, which is not always in the best interests of the client.

The growth in the United States of the repressed memory issue has been extraordinary and we are now seeing the same phenomenon in Australia, with similar clinical, ethical, and legal problems emerging. The Australian Psychological Society is one professional organisation to respond quickly to the clinical issues in repressed memory work, with its recent publication of *Guidelines Relating to the Reporting of Recovered Memories*. The time may be due for the ASH to debate the need for similar guidelines for hypnotherapeutic work in the area of repressed memories.

Michael Yapko's recent book *Suggestions of Abuse* provides compelling reading for any researcher or clinician who uses hypnosis. In preparation for the book, Yapko surveyed 1,000 US therapists, asking for their beliefs on memory. We should all be shocked, as was Yapko, with the plethora of misinformed ideas and practices of many of his respondents. For example, 45% of the therapists agreed that the human mind was like a computer, accurately storing events as they occur. Approximately 25% said that level of certainty about a memory was strongly correlated with that memory's accuracy, and 43% agreed that if someone doesn't remember much about their childhood it was most likely because it was somehow traumatic. In relation to hypnosis, 75% said trance is a valuable tool for facilitating accurate recall when memories were not forthcoming and 54% agreed hypnosis could be used to recover memories as far back as birth. What is most shocking about these statistics is the fact that none of the statements is true. The available research and empirical data strongly support the view that repression is an uncommon response to sexual and other forms of childhood abuse and active repression of many events over many years is highly unlikely. Research into hypnosis and memory convincingly shows that hypnosis does not increase the accuracy of recall and may only cloud reality, in that the subject or client may simply be more convinced as to the reality of the recall, because hypnosis was used. We generally lose our earliest childhood memories, not because they were repressed but because the developing brain has yet to acquire the ability to establish long-term memory associations.

We can only hope that, should Yapko's research be conducted in Australia,

we would find a much lower percentage of clinicians agreeing with the statements made. Whatever the reality, Yapko's work highlights the concern with clinicians allowing themselves to stray from a neutral stance in therapy, to, in his words, lapsing into dogma in their treatment approach. While the clinician's beliefs about the aetiology and treatment of disorders may often focus their therapy, given what we do not know about abuse (and, indeed, what we do know), Yapko asks why shouldn't we be more careful about our therapeutic methods? For clinicians to project their beliefs into therapy is an irresponsible, unprofessional, and unethical act.

Even when a clinician is careful about his or her therapeutic methods, it is easy to illustrate how a client's beliefs can be manipulated, even in the context of well-intentioned therapy. Writing in a recent edition of *The Therapist*, Joseph Griffin described the following scenario, which may well apply to the therapeutic situation:

When a person is going through a difficult period in their life, or when they are trying to discover who they are and where they fit into life, they may be particularly vulnerable . . . In the accepting, supportive atmosphere of the therapy room, the following comment may sound like an innocent question: "I wonder what terrible things must have happened in your childhood? Things you probably can't remember — that would explain these problems you have now." This statement is in fact a powerful suggestion inviting a client to begin a search of their memory for abusive experiences. The clinician may be even more explicit and say: "Your symptoms fit the profile of someone who was sexually abused as a child." S/he may go on to suggest that: "When you are ready to get well, you may have dreams about the abuse." If the client should subsequently have a dream involving abuse, this can be taken as evidence that the abuse occurred. We know that dreams reflect our waking preoccupations so that a client would be quite likely to have a dream involving abuse in response to such a suggestion, irrespective of whether abuse actually occurred.

Most people are highly suggestible under the right conditions and we can easily be persuaded to deny the evidence of our own senses. The effect of these processes in therapy can be heightened when hypnosis is being used.

In his book, Yapko discusses how people, believing they may have repressed memories of abuse, should go about choosing a therapist. The best way, he says, is to go through a reputable referral agency. In Australia, this would be most appropriately done through professional associations or the Society. The efficacy of such referrals is, of course, dependent upon the individual clinician understanding and practising within the guidelines for repressed memory therapy laid down by the professional associations.

Yapko then provides a series of questions the individual can ask of a therapist. I recommend the questions to you as a clinician, asking you to ensure satisfactory answers prior to engaging in repressed memory therapy:

1. Do you have substantial experience working with issues of sexual abuse?
What kind of experience?

2. Are you aware of the intense controversy surrounding repressed memories of abuse?
3. Do you encourage the recovery of repressed memories? If so, under what conditions and what steps do you take in therapy to ensure against leading the client?
4. Do you believe you can recognise signs of abuse even in someone who has no such memories? If so, how? (If so, you may well wish to share this information with the scientific and clinical community, to whom it is not obvious – Ed.)

Above all, argues Yapko, a good therapist should always be willing to say: “I don’t know” rather than providing answers that are unfounded, answers that rely on personal belief and bias.

Yapko’s checklist of questions is supported by the findings of the Working Party on the investigation of memories of childhood abuse set up by the American Psychological Association. Having reviewed the research and clinical evidence, the Working Party put forward a series of pointers, to help people choose a competent, professional therapist.

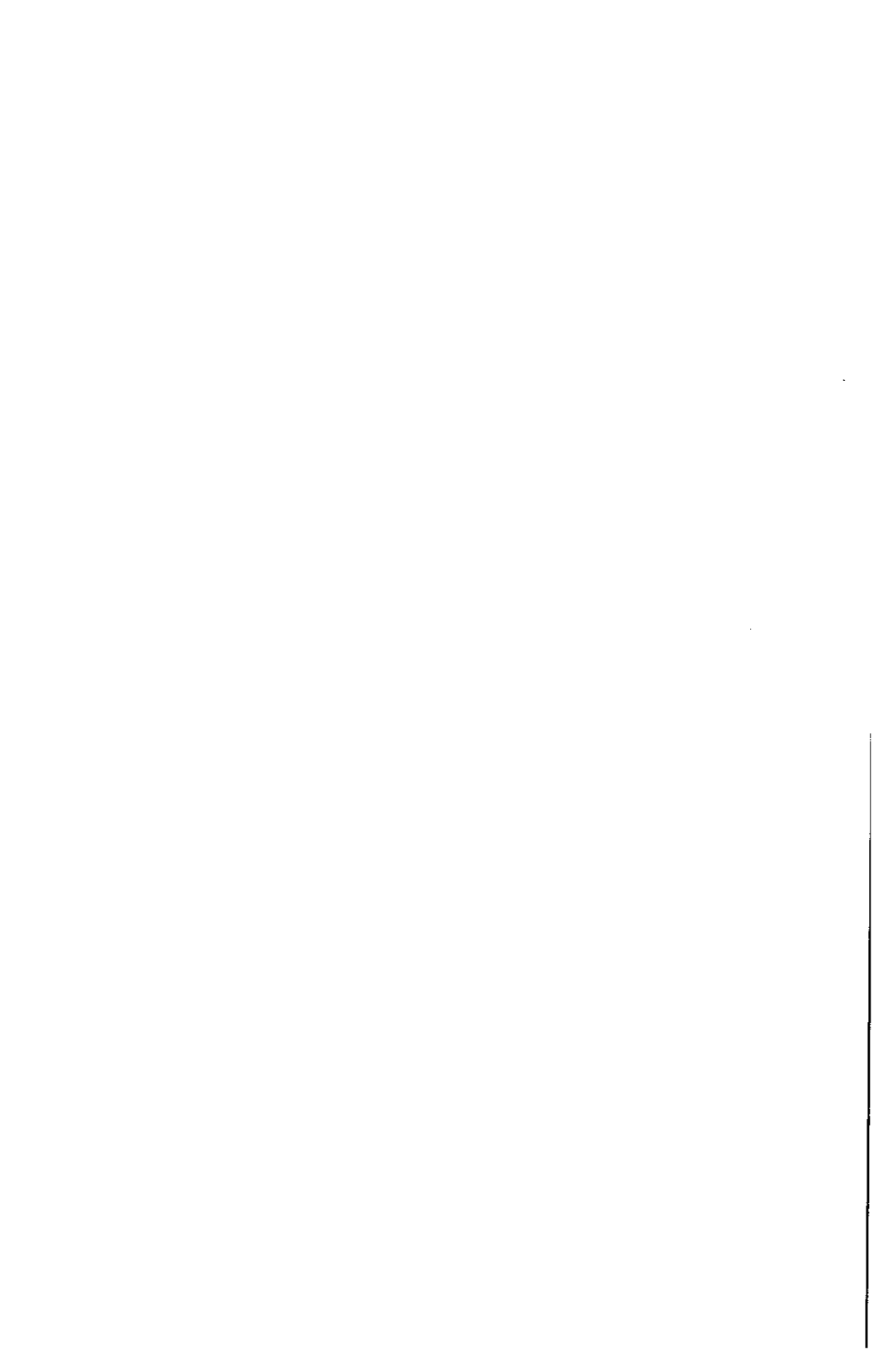
First, the Working Party pointed out there is no single set of symptoms which automatically indicate childhood abuse. Second, all questions asked by the therapist concerning possible recovered memories of childhood abuse should be considered from an unbiased position. Any therapist approaching recovered memories with preconceived notions that abuse *must* have happened or that abuse *could not possibly* have happened, is not practising competently or ethically.

The Working Party also warned the public should be wary of clinicians who quickly offer childhood abuse as an explanation for current problems. Equally, it cautioned wariness of those who dismiss claims or reports of sexual abuse without any exploration.

In order to help the public understand what may happen in therapy, the Working Party suggested that any competent therapist would strive to “stick to the facts” as presented by the client, carefully letting the information evolve, rather than steering the client toward a particular conclusion or interpretation. Most importantly, the therapist should openly acknowledge that our current knowledge does not allow the definite conclusion that any memory is real or false without other corroborating evidence.

There is a need for the Society to investigate and detail the most appropriate behaviours for clinicians, to ensure against the possibility of clients creating false or confabulated memories, and the requirement for all clinicians to know the potential problems and how to avoid these. Failing either of these may mean we are failing to put the client’s welfare foremost.

Barry J. Evans
Monash University
May 1996



PROBLEM GAMBLING: TREATMENT STRATEGIES AND RATIONALE FOR THE USE OF HYPNOSIS AS A TREATMENT ADJUNCT

Greg J. Coman

Addiction Research Institute

Barry J. Evans

Monash University

Graham D. Burrows AO

*Department of Psychiatry, University of Melbourne/Austin &
Repatriation Medical Centre*

Research into gambling behaviour and its treatment has undergone considerable growth in Australia in recent years with the rapid introduction of many new, highly accessible forms of gambling. The clinical characteristics and prevalence of serious gambling disorders have been investigated and DSM-IV (1994) includes Pathological Gambling as a form of impulse-control disorder. At the same time, relatively little is known about the prevalence of problem gambling in our community. This paper describes what is known about pathological and problem gamblers and discusses treatment strategies for problem gambling. These include imaginal desensitisation and cognitive restructuring, using hypnosis as an adjunct.

The study and treatment of gambling is relatively new in Australia, commencing with the landmark research of Dickerson (1984) and Blaszczynski and his associates (Blaszczynski, 1993; Blaszczynski & McConaghy, 1989, 1992; Blaszczynski, McConaghy, & Frankova, 1991a, 1991b). Research is continuing with the work of the Addiction Research Institute in Victoria (1995) and treatment centres in other states of Australia. This upsurge of interest, research

Requests for reprints should be sent to Greg J. Coman, Addiction Research Institute, 155 Park Street, South Melbourne, Victoria 3205.

research and developments in treatment for problem gambling has developed with the widespread introduction of new forms of gambling in most Australian states in recent years.

The literature on gambling uses different terminology to describe the nature of problem gambling behaviour. Such terms as “addictive” (Dickerson, 1984), “compulsive” (Bergler, 1957), “excessive” (Greenson, 1947), and “problem” (Coman, Burrows, Singer, & Singer, 1996) have been used to describe gambling behaviour that is considered unhealthy for the individual. In this paper, the term “pathological” will be used to describe the gambling characterised by the behaviours and sequelae detailed in the Diagnostic and Statistical Manual of the American Psychiatric Association [APA] (DSM-IV, 1994). The term “problem gambling” will be used to describe problematic gambling behaviour not fitting the criteria in DSM-IV.

Pathological gambling is recognised as a mental disorder by the APA (DSM-IV, 1994), characterised by chronic and irresistible impulses to gamble, with consequent gambling compromises and disruptions to family, personal, and vocational pursuits in at least three of the following:

1. Restlessness and irritability when attempting to cut down or stop gambling.
2. Gambling to escape from problems or relieve depressed mood.
3. Gambling to recover losses from previous gambling episodes.
4. Lying to family members or others to conceal gambling extent.
5. Committing illegal acts such as forgery, fraud, embezzlement, or income tax evasion to obtain money for gambling.
6. Jeopardising family or spouse relationships due to gambling.
7. Jeopardising job, educational, or career opportunities due to gambling.
8. Relying on others to provide money to relieve a desperate financial situation. (DSM-IV, 1994, p. 618)

Problem and pathological gambling can be distinguished from social and professional gambling. Social gambling typically occurs with friends or colleagues and lasts for a limited period of time, with predetermined acceptable losses. In professional gambling, the individual limits risk and operates with firm control over his or her behaviour. The pathological gambler is preoccupied with gambling, thinking about past gambling experiences and planning future activities. The individual seeks action and excitement, but increasingly larger bets are required to produce the desired level of excitement. When restrained from gambling, the individual may become restless and irritable and, over time, social relationships become strained and the individual may resort to antisocial behaviour to gain the funds needed to maintain the long-term chase to regain lost expenditure (DSM-IV, 1994).

We apply the term “pathological gambler” to the individual who engages in chronic gambling behaviour patterns described above. Some individuals can experience problems associated with their gambling behaviour, such as short-

term attempts to regain lost expenditure (called short-term behaviour by DSM-IV [1994]) and loss of control when in a gambling situation. These individuals do not meet the criteria for Pathological Gambling under DSM-IV but may well be considered "problem" gamblers. For treatment purposes, gambling behaviour is conceptualised as a continuum from controlled, through "problem" to the more serious notion of "pathological" gambling.

Pathological gambling has many similarities with addictive behaviour and while there are also similarities between obsessive-compulsive disorder (OCD) and pathological gambling, the latter is characterised by an element of choice not present in addictive disorders and OCD.

The prevalence of pathological gambling in the Australian community has not been clearly established. DSM-IV suggests a prevalence rate of 1–3% of the adult population. The current incidence of problem gambling in Australia is becoming clearer through projects undertaken by the Australian Institute for Gambling Research on a state-by-state basis. Recent research in Victoria conducted on behalf of the Victorian Casino and Gaming Authority (VCGA) suggests that problem gamblers make up 3% of the gambling population (VCGA, 1995) while some clinical experts suggest the percentage of problem gamblers to the adult population is 1% (Allcock, 1996).

The incidence of non-problematic gambling is significantly higher. Blaszczynski (1995) reported that 80–90% of people engage in social gambling, while between 24% and 39% of people engage in regular gambling, depending on the precise definition of the behaviour involved.

Two-thirds of pathological gamblers are male, but the remaining one-third females are seriously under-represented in treatment programmes (DSM-IV, 1994). What is particularly concerning in the Australian context is the relatively recent availability of many different forms of gambling and the potential for their abuse by the general public not educated in the reasonable use of these activities. This is one focus of attention for the Addiction Research Institute, a centre for research and counselling in problem and pathological gambling, whose interests include research into abuse of alcohol, tobacco, prescription, and non-prescription drugs and the range of treatment strategies for such abuse.

Males and females exhibit quite dissimilar gambling characteristics. Males commence gambling behaviour in early adolescence, whereas females commence in their mid-twenties to mid-thirties. Females who gamble are often depressed and gamble to escape. In a survey of gamblers, 24% reported they gamble for money, 46% to relieve boredom and/or depression, and 51% to relieve stress (Blaszczynski, 1995). While some few individuals become hooked on gambling from their first bet, for many there may be years of social gambling followed by an abrupt onset precipitated by greater exposure to gambling sources or a stressor which causes increased gambling behaviour. For many pathological gamblers there is a progression in the frequency of gambling, increases in the amount wagered, and increasing preoccupation with gambling (DSM-IV, 1994).

Despite the attention given to casinos in our capital cities, legal and illegal casinos account for less than 1% of problem gambling. Gambling on horses accounts for nearly 58% of problem gambling, followed by poker machines (32%), video machines (5.5%), and card games (3%) (Blaszczynski, 1995).

It is important to remember that many pathological gamblers have associated symptoms of anxiety and/or depression. Studies show that up to 75% of gamblers seeking help suffer from depression and 61% report suicidal ideation. Over 22% have made actual suicide attempts (Blaszczynski, 1995). Gamblers who focus their attention on low-skill gambling, such as electronic gaming machines, to relieve stress are more likely to be suffering from stress and anxiety. When depressed, gamblers utilise more skilled games to lift their depressed mood, with daydreams of winning. They may also engage in more social forms of gambling, such as card games, to enhance social interaction. Whatever the type of gambling utilised, the practitioner needs to take this into account when assessing the severity of disorder and selecting appropriate treatment strategies.

Gambling abuse may also be associated with alcohol and drug usage, which can act as a trigger for relapse. For example, an individual stops drinking, then goes to a club, gambles, becomes depressed, then relapses into drinking. Conversely, the reformed gambler may drink, the alcohol acts as a dis-inhibitor, so that s/he then relapses into gambling. Both problems need to be addressed simultaneously in treatment.

Together with substance abuse, pathological gambling is also frequently associated with criminal behaviour and personality disorder. In Blaszczynski and McConaghy's (1992) sample of 306 pathological gamblers, 68% admitted to gambling and non-gambling related criminal activity. Fifteen per cent of the sample met the criteria for antisocial personality disorder. DSM-IV (1994) reported similar associated features and disorders and also makes the point that loss of judgment and excessive gambling may characterise a manic episode. A diagnosis of mania would only apply if these manic-like features apply away from the gambling situation. Research has yet to be conducted to determine if such associated personality characteristics apply to problem gambling.

The presence of alcohol abuse, personality disorder, and criminal behaviours in other impulse disorders such as sexual addiction and paraphilias are predictors of poor response to treatment (Blaszczynski, 1993) and their presence needs to be carefully assessed when considering treatment strategies, especially hypnotherapy, for problem and pathological gambling.

AETIOLOGY OF PROBLEM AND PATHOLOGICAL GAMBLING

The aetiology of gambling disorders is not clearly understood. The theories which have been put forward include psychodynamic, behavioural, sociological, and addictive interpretations. A full analysis of these is beyond the scope of this paper.

There is some support for the view that pathological gambling is an addiction, with similar sensations being reported by gamblers to those reported by those using drugs and alcohol (Dickerson, 1984; Horodecki, 1992; Murray, 1993; Schwartz & Lindner, 1992). For this reason, there has been a resultant placement of gambling treatment centres within abuse programmes conducted by drug and alcohol centres (Gambino & Cummings, 1989; Lesieur & Blume, 1991; Shaffer, 1989; Schwartz & Lindner, 1992). One difficulty in determining the causality of pathological gambling is the difficulty of cross-addiction of alcoholism and gambling, making causal relationships hard to determine. As Murray (1993) concludes, we do not know if gamblers can be divided into dichotomous groups of those who are pathological versus those who are not sick and those who lose control as gamblers, compared to those who do not lose control. Many researchers and clinicians are unhappy with the view of pathological gambling as an addiction. Walker (1989), for example, points out that the concept of addiction involves physiological processes that do not appear to be always present in cases of excessive gambling.

There is also some current pharmacological evidence to suggest that pathological gambling may also have a compulsivity dimension, similar to that in obsessive-compulsive disorders (Hollander, Frenkel, Decaria, Truong, & Stein, 1992). Allcock and Grace (1988) argued that compulsive gamblers are neither impulsive nor sensation-seekers.

The problem of aetiology extends to understanding the nature and causality of problem gambling versus pathological gambling. We do know that the majority of people say they gamble to relieve stress and boredom but this does not explain why some individuals then go on to gamble excessively, to the point where the behaviour becomes problematic (in contrast to pathological). However, we have found one current behavioural interpretation helps us understand many of the phenomena associated with problem gambling; its causality; and treatment. This is McConaghy's Behaviour Completion Mechanism Model (Blaszczynski, 1993; McConaghy, 1980). McConaghy argued that, over time, as an individual gambles, the central nervous system habituates the behaviour, from initial stimuli-provoking arousal through to completion of the gambling act. When the individual cannot complete the behaviour, either through his or her attempts at control or when prevented externally, the individual experiences noxious tension so aversive as to compel them to indulge in gambling behaviour to relieve the tension. The model has support from the evidence which shows that gamblers' attempts to control their behaviour induce feelings of tension, irritability, and depression, which are reduced when gambling behaviour is initiated. The reduction in physical and emotional tension acts as a negative reinforcer, while the excitement generated by gambling serves as a positive reinforcer. The gambler learns that tension generated by other stressors can be reduced by gambling, so that any negative emotional states of anger, frustration, or anxiety act as cues for further gambling (Blaszczynski, 1993; McConaghy, 1980).

TREATMENT FOR PROBLEM GAMBLING

A range of treatment approaches have been used in the treatment of pathological and problem gambling, often reflecting the aetiological approach of the therapist. Earlier this century, psychodynamic formulations dominated treatment interventions, but since that time, behavioural, cognitive-behavioural, psychopharmacological, and multi-faceted approaches have also been developed. Unfortunately, the treatment literature consists mainly of case study analyses and there have been few, if any, controlled studies reported in the literature. Thus, there is no clear or commonly agreed treatment programme available.

This section does not provide a full description or analysis of treatment approaches for pathological and problem gambling. For such a review, see Blaszczynski (1993), Knapp and Lech (1987), Murray (1993) and Walker (1993). Here we briefly review some current treatment methods that may be appropriate for problem gambling and then suggest an approach to individual treatment based upon the experience of the Addiction Research Institute and treatment centres elsewhere in Australia.

Aversive Treatment

One early form of treatment for pathological gambling was aversive therapy, in which gambling behaviour is paired with an electric shock or other noxious stimuli. There have been a limited number of controlled research studies into the use of such therapy reported in the literature, with most information coming from case studies and anecdotal evidence. A wide variety in actual techniques and schedules of reinforcement makes inter-study comparisons difficult, but Walker (1993) suggests a conservative success rate of about 23%.

The first use of aversive therapy for gambling was reported by Barker and Miller (1966), who treated a 34-year-old male with a 12-year history of excessive slot or poker machine play. They used randomly delivered electric shocks, totalling 672 during four 3-hour sessions of play on a machine set up in a hospital ward. The patient, following therapy, ceased gambling and did not resume play during a two-month follow-up. A number of other cases in which aversive therapy was successfully used were subsequently reported. In some cases, aversive therapy in the natural environment or with an actual machine was not available, so shock therapy was administered while gamblers watched a film of themselves gambling and viewed slides and heard an audio recording of themselves while at a gambling venue. Another strategy used was to pair a film of the client gambling with audio recordings of a spouse and therapist describing the negative consequences of excessive gambling. In some cases, up to 450 shocks were administered in 10 30-minute sessions.

When considering the use of aversive therapy for gambling or any other behavioural disorders, a number of ethical considerations, in addition to those normally present in a therapist/client relationship, must be taken into account.

Clinicians should consult their professional organisations' code of ethics and professional conduct.

Self-Help Organisations

Gamblers Anonymous is the only self-help group which specifically provides a therapeutic regime for pathological and problem gamblers. Established in California in 1957, their treatment is based on the philosophy that pathological gambling is a progressive illness, which can only be arrested, not cured, by total abstinence. The programme utilises a 12-step recovery process, similar to that of Alcoholics Anonymous and relies heavily on sharing of common experiences in a supportive group environment.

Given that the organisation is not involved in systematic data collection determining programme evaluation and success, it is hard to establish the efficacy of the process. In a longitudinal study of Gamblers Anonymous in Britain, Brown (1985, 1987) conducted a retrospective analysis of meeting attendances from a number of GA meetings over a five-year period. Of 232 new members who attended during the period, 22% attended one meeting only and 69% had dropped out after attending fewer than 10 meetings. It is not known how many of these returned to gambling or how many began gambling again at a problem level. Eighteen per cent of new members during the period were still active with GA after two years. While this figure is not high, it should not be surprising, given that continued membership is dependent on total abstinence from gambling and the programme has a high spiritual orientation.

Little is known about which individuals are more likely to benefit from this programme, compared with other treatment modalities. The very limited studies of individuals most likely to gain from contact with Alcoholics Anonymous have suggested AA works most effectively for those individuals with a certain pattern of personal characteristics, including lower educational level and high need for authoritarianism, dependency, and sociability (Feist & Brannon, 1988). Notwithstanding, the limited available data suggest that people who do participate in the GA programme can benefit from the experience (Brown, 1985; Taber, McCormick, Russo, Adkins, & Ramirez, 1987). Anecdotal evidence from callers to G-Line, a telephone counselling and referral service for people affected by problem gambling run by the Addiction Research Institute in Victoria, suggests that many meetings are dominated by men who have long histories of gambling on horse and dog racing. Women report feeling highly uncomfortable attending such meetings and have discontinued attendance after only one session. Gamblers Anonymous will not run separate sessions for men and women, given their charter to provide help to all problem gamblers regardless of personal characteristics. However, the organisation is a dynamic one and groups close when memberships decline in one area and form when demand is generated in other geographic areas. Women callers to G-Line report feeling welcomed and helped by groups in which there is equal representation for men and women, or groups with a majority of women.

Minimal Intervention Programmes

The term "minimal intervention programme" was used by Dickerson, Hinchy, and Legg England (1990) to describe specially written self-help manuals for gamblers. These were designed in the absence of adequate community resources to help pathological and problem gamblers, and were based on the success of such manuals for a variety of problem areas. The manual included training in self-monitoring, analyses of gambling behaviour, goal and limit setting, self-reinforcement, and how to maintain long-term gains. A superficial study of the effectiveness of such an intervention (Dickerson et al., 1990) reported that most users maintained subjectively acceptable reductions in gambling behaviour at six-month follow-up. The Addiction Research Institute has prepared a similar manual (Coman et al., 1996). We have found that manuals of this kind work most effectively with clients who acknowledge their problematic gambling behaviour and who have good self-awareness and motivation to change.

Pharmacological Treatment

Several single and small case studies have reported the use of medication, primarily to block the reinforcing affective component of gambling behaviour.

Lithium carbonate was used by Moskowitz (1980) to treat a small group of three pathological gamblers but the study did not record success or failure over the unspecified follow-up. As indicated earlier, pathological gambling episodes can be symptomatic of a manic episode (DSM-IV, 1994), so it is not clear if the medication is operative for the pathology of gambling or cyclic affective disturbance.

Clomipramine, fluoxetine, and other serotonin re-uptake blockers have been used by several researchers, based on the belief that pathological gambling is related to the impulsivity dimension of obsessive-compulsive disorders, rather than being an addiction (Haller & Hinterhuber, 1994; Hollander et al., 1992). Results suggested a reduction in gambling behaviour over one-month follow-up, but, clearly much more research needs to be done to clarify these data and to determine if long-term reductions also apply. These medications have been used successfully in the treatment of other impulse-control disorders, including sexual paraphilic behaviours (Emmanuel, Lydiard, & Ballenger, 1991), compulsive non-paraphilic sexual addiction (Stein et al., 1992), trichotillomania (Winchel, Jones, Stanley, Molcho, & Stanley, 1992), kleptomania (McElroy, Keck, Pope, & Hudson, 1989), and bulimia (McElroy et al., 1989).

These results do suggest that, among the impulse-control disorders, pathological gambling may have a compulsive dimension comparable to that of obsessive-compulsive disorders.

Cognitive Strategies

Treatment interventions for problem or pathological gambling frequently utilise cognitive strategies, to help clients understand their thoughts in relation to gambling and in restructuring cognitions. A number of specific cognitive techniques can be used.

Cognitive Restructuring Many problem gamblers exhibit irrational beliefs and superstitions about gambling activity. An important focus for any treatment programme, then, should be an analysis of the beliefs and ritualistic behaviours, self-talk and talk to the gambling tool in which the client engages.

Players of card games at casinos can be observed to knock the table when being dealt a card or abide by self-generated rules about doubling, or taking cards. Electronic gaming machine players sometimes have favourite machines. Regardless of whether the machine is a favourite or not, they will often engage in self-talk, such as: "This machine is going to be good to me today" or "I haven't won for a while. I deserve to win today" or "This machine feels lucky to me." Players will also talk to the machine as if it were a person: "Why didn't you pay me that time?" or "Thank you" when a payout is made. Gamblers can also engage in rituals; rituals about the number of coins to insert prior to play; whether to allow credits to accumulate or be returned; the strength of handle pull or button push; and the number of lines or coins played per game. It will be necessary for the therapist to thoroughly examine the gambler's thoughts immediately prior to, during, and after a gambling session.

Once the range of irrational or superstitious beliefs and behaviours have been identified, then cognitive restructuring can occur. This will involve challenging the client to recognise the beliefs and behaviours as irrational and to replace them with ones which are more reasonable. Rational emotive therapy would be a useful tool at this stage.

Imaginal Desensitisation McConaghy and his colleagues have successfully used imaginal desensitisation to treat pathological gambling (McConaghy, Armstrong, Blaszczyński, & Allcock, 1983; McConaghy, Blaszczyński, & Frankova, 1991). Using this procedure, the client undergoes 14 sessions, administered in three 20-minute sessions each day over five days, with each session separated by no more than two hours. The client relaxes in a quiet room, is then given a series of four scenes in which they are stimulated to gamble but do not do so, and asked to visualise themselves performing the behaviour described in the scene. After relaxing for 20 seconds, the client is asked to visualise the next scene in the sequence until the scene is completed. They then blank their mind prior to the next scene being introduced. Two of the four scenes are:

You are going home from work and know your wife is away. You decide to go to the club and put a few dollars through the slot machines. You are about to put a coin in, but you feel bored. You leave without gambling.

You have had a trying day where nothing has gone right for you. You feel tense and angry. On the way home, you decide to drive to the betting shop to place a few bets. As you are walking toward the entrance you start to feel bored with the idea of spending your time gambling. You decide not to enter, but return home to your wife.

The rationale behind this technique lies in the fact that gambling behaviour is associated with high levels of excitement and arousal, causing higher and more aversive levels of tension if not completed when stimulated. Imaginal desensitisation acts by training the client to feel relaxed rather than aroused in response to cues for the compulsive feelings that would normally cause him or her to engage in gambling behaviour. This rationale is reinforced by the finding that, unlike uncontrolled gamblers, the subjects in the Blaszczynski et al. (1991a) study who reported control, or cessation, of gambling at follow-up, showed normal levels of trait anxiety and neuroticism. They had learnt control over their gambling compulsion and the aversive tension normally felt with their previously uncontrolled gambling response.

Thought Stopping Thought stopping is a common technique used by therapists to help clients change their behaviour and is one which may be used to good effect with problem gamblers. Many gamblers report feeling irresistible urges to gamble and describe gambling venues as magnets which draw them in. In therapy, the client is instructed to monitor the impulses to gamble. When a thought regarding gambling is generated, one or more of a variety of thought-stopping techniques or thought-replacement techniques can be instigated. A common thought stopping technique is to flick an elastic band worn around the wrist to stop the gambling thought and then replace the thought with a previously rehearsed alternative.

Behavioural Strategies — In Vivo Desensitisation

When using in vivo desensitisation for the treatment of problem gambling, the therapist accompanies the client to the gambling venue. The client is allowed to experience all the normal stimuli associated with gambling but not allowed to place a bet. The aim is to ensure that the client becomes desensitised to the stimuli and learn that s/he can experience them without gambling. Programmes utilising this technique can involve a concentrated strategy, incorporating daily sessions over seven to ten days (Blaszczynski, 1988) or a more lengthy approach involving a greater number of sessions over a period of months (Greenberg & Rankin, 1982)

An analysis of treatment outcomes for the above programmes suggests that, on its own, in vivo desensitisation is not very effective, with between 10% and 30% of participants reporting abstinence or controlled gambling at follow-up of nine months. Walker (1993) suggested this low success rate applies because full extinction of the gambling behaviour and associated excitement is unlikely to

occur within such a short period of treatment. An over-learned behaviour such as gambling may take months or years of such trials to completely decondition some clients.

AN APPROACH TO TREATMENT FOR PROBLEM GAMBLING

The treatment approach described below has been developed from our experience with problem gamblers treated by the Addiction Research Institute and other centres in Australia.

Desired Treatment Outcome

In determining an approach to treatment, the clinician's first goal is to establish whether controlled gambling or abstinence is the treatment outcome. Much of the available literature in treatment programmes for pathological and problem gambling asserts that abstinence is the desired treatment outcome. This view has developed from the impact of the Gamblers Anonymous approach to treatment, espousing the philosophy that gambling is a disease and that participation in any form of gambling would invariably lead to loss of control and resumption of the individual's pathological habits (Blaszczynski, 1993). The argument that abstinence should be the only appropriate treatment outcome comes also from the view of pathological gambling as a form of addictive behaviour. While pathological gambling does share features in common with addictive disorders, its classification as an impulse-control disorder in DSM-IV (1994) does suggest that abstinence as a *sine qua non* for success in therapy may not be warranted.

We also argue that abstinence as a treatment goal may fail to take into account significant improvement in gambling behaviour and other areas of functioning for the individual receiving treatment. These include:

1. The client stops problem or pathological gambling in its primary form, but continues to participate in other benign gambling behaviours (Blaszczynski, 1993).
2. The client may continue to gamble in a reduced manner in the primary gambling form, but may show significant improvement in other areas. These may include improved social and interpersonal functioning, reduced urge to gamble and consequent reduced frequency of gambling behaviour, and ability to control gambling urges when indulging in gambling activity (Blackman, Simone, & Thoms, 1989; Blaszczynski, 1985; Taber et al., 1987).

For many clients, the possibility of a relapse when the treatment outcome is abstinence, may constitute failure of treatment. This may reduce willingness and motivation to engage in therapy in the first place and will certainly reduce motivation to continue in therapy should a relapse occur. On the other hand, setting controlled gambling as the preferred treatment outcome means that clients may continue to regard themselves as having successfully undertaken

treatment, despite lapses. We find also that the prospect of controlled gambling brings people to therapy much sooner than they might otherwise contemplate, with its desirable goal of helping the individual to control an otherwise unpleasant and intrusive preoccupation. As Blaszczynski (1993) noted, the option of controlled gambling as a treatment outcome of choice also lowers treatment rejection and attrition for gamblers who find complete cessation difficult or unacceptable.

At the commencement of therapy, therefore, it is important to discuss with the client their preferred treatment outcome and to formulate a mutually agreeable objective to treatment before proceeding.

Treatment Approach

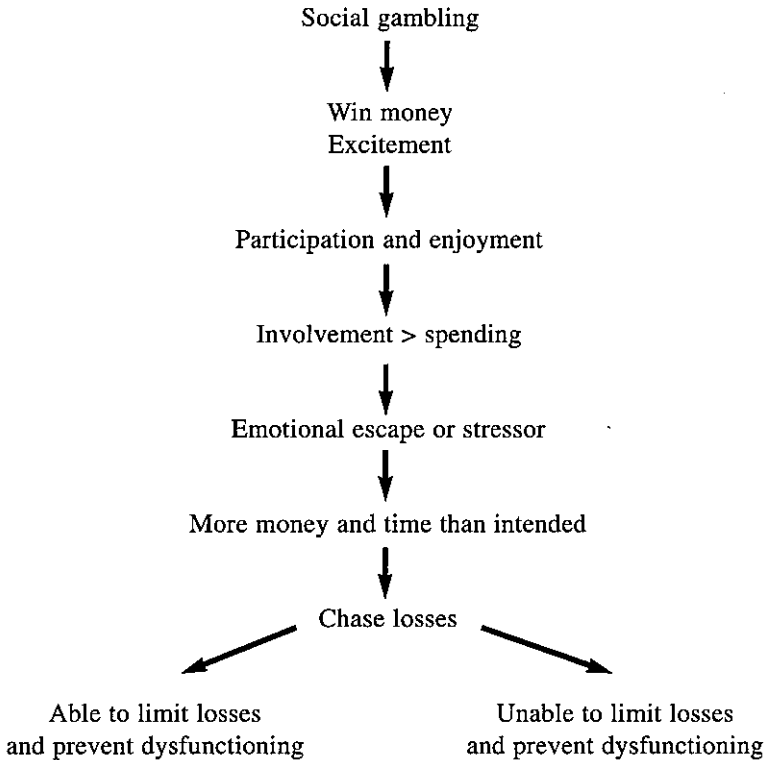
We suggest the following approach to counselling and treatment for problem gambling, using a range of behavioural, cognitive, and possible hypno-therapeutic techniques. It is important to begin with an understanding of the client's motivation for gambling, why social gambling changed to problem gambling, and why the client has presented at this time. Figure 1 suggests how some emotional factor or stressor may cause social gambling to become problematic.

In the first session, it is necessary to establish the client's form(s) of gambling. Check if it is consistently the same form of gambling activity, or if the client utilises several different forms of gambling. Pay particular attention to the client's description of any emotional or stressful events that were experienced immediately prior to the emergence of problem gambling. Blaszczynski (1993) argues that most clients will be unable to clearly separate their transition from controlled to uncontrolled gambling. He suggests this occurs because the client will exhibit denial of the problem in its early stages and the problem behaviour may well have had a gradual onset. Clinicians may find it appropriate to use a standard scale for the assessment of the client's gambling problem, such as the South Oaks Gambling Questionnaire (Lesieur & Blume, 1987).

It is also necessary in the early stages of therapy to assess if the client's gambling problem is related to psychiatric disturbance, criminal activity, personality disorder, or substance abuse. As part of the client's investigation, many clinicians utilise a battery of psychological tests, including measures of anxiety (State-Trait Anxiety Inventory; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), depression (typically the Beck Depression Inventory; Beck, 1993), presenting symptomatology (Symptom Checklist-90; [SCL-90]; Derogatis, 1977), and sensation-seeking behaviour (Zuckerman's Sensation Seeking Scale; Zuckerman, 1978).

In the second session, take a full personal and family history, focusing on the gambling habits of both parents and grandparents of the client. Fully explore the client's alcohol consumption, smoking habit, and use of legal and illicit drugs.

Figure 1 Process of Developing Problem Gambling (after Blaszczynski, 1995)



If any of these are also problems for the client, they need to be treated concurrently with the gambling problem. If the client has entered therapy to offset criminal prosecution, this secondary motivation will interfere with treatment and will reduce motivation to remain in treatment once the threat of criminal prosecution has passed. Treatment for the gambling behaviour should, if practical, not commence until legal action has been completed.

Stress to the client that improvement will be slow, but gradual. Research suggests that it may take up to 10 sessions for any demonstrable improvement in emotional control over gambling impulsivity (Blaszczynski, 1995). The therapist and client need to establish the aim of therapy: whether abstinence or controlled gambling is the desired outcome to treatment. Some clinicians argue strongly that it is important to cut off the gambler's access to all sources of money and to discourage all forms of gambling. However, as we have suggested earlier, the desired treatment outcome may be controlled gambling, rather than complete cessation.

Hypnosis

Hypnosis can be a valuable adjunct to treatment for problem gambling and can be introduced early in therapy. It is vital to assess contra-indications to the use of hypnosis, especially co-existent depression, personality disorder, or criminal intent or activity.

There is practically no reference in research or clinical literature to the use of hypnosis in the treatment of gambling problems. However, our belief that hypnosis should be considered as a part of therapy is based on its proven efficacy in the treatment of compulsive and habit disorders, anxiety disorders, and addictive disorders (Burrows & Dennerstein, 1988; Evans, 1995; Hammond, 1990). There are also many clinical and experimental reports of the use of hypnosis in heightening the efficacy of desensitisation, imagery, cognitive-behavioural, and cognitive therapies (Burrows & Stanley, 1995; Hammond, 1990). Hypnotherapeutic techniques are also useful for ego-strengthening and increasing self-esteem (Stanton, 1993).

Early in therapy, it is appropriate to begin utilising imaginal desensitisation with the client, with or without hypnosis. Earlier, we reported two of the guided imagery scenes used by McConaghy et al. (1991), but these can be varied to suit the particular client. To do this, get the client to outline in detail the steps involved in their gambling behaviour. Break these up into their components. Teach the client progressive muscle relaxation or self-hypnosis. While relaxed or in trance, describe the gambling scenes to the client — asking them to visualise the sensory, cognitive, and emotional states associated with each, while, at the same time, remaining relaxed. Then ask them to change the cognition by, for example, visualising the horse (wheel, cards, etc.) losing, visualising oneself not wanting to bet, throwing the betting slip away, and walking away with money in pocket — still fully relaxed.

It is useful to audiotape the imaginal desensitisation sessions and to ask the client to listen to the tape twice a day, five days a week. The aim of this re-exposure is to help the client visualise the controlled scenes without the tape, a process which can take up to four weeks. At this point in treatment, it is useful to commence cognitive therapy, to challenge the client's beliefs about gambling and to eliminate cognitive distortions that are reinforcing the gambling behaviour.

The most common cognitive distortions gambling clients share are that gambling is financially viable; that one can extract oneself when one wants to; and that the money lost is rightfully theirs, so that gambling should continue until it has been reclaimed. Ask the client to indicate their biggest win when gambling and to estimate their overall loss. Not only will the client have to challenge some of their beliefs, but will also have to accept their losses and other negative outcomes from gambling.

The hypnotic trance can be used to help clients challenge their beliefs, helping the therapist to suggest new, more appropriate beliefs and cognitions.

One suggestion found useful by therapists is that gambling subsidises the club, other people, and the community, and is there as entertainment. Few gamblers like the idea that they are subsidising other people and that, as a form of entertainment for which they pay, they are unlikely to get their money back. Suggest that, the next time they think of gambling, the client should think of benefits going to other people. Another cognitive strategy is to ask the client to calculate the amount of money they invest per day, week, month, and year on gambling. Many clients claim their financial problems are the result of daily living costs, not their gambling behaviour.

As the client develops control over their gambling behaviour, it is necessary to begin helping them substitute new behaviours to replace the gambling. These alternate behaviours should be comparable in excitement to gambling for the client, accessible, and able to be carried out at any time of the day, without anyone else being needed. If the client is married, it may also be appropriate to discuss putting time into relationships with spouse and children.

For those clients who report gambling to relieve boredom, help them to develop new strategies to fill in their time in different ways.

It will also be useful to discuss with the client the likelihood of relapses, depending upon what was set as the goal of therapy earlier in treatment. The therapist should have discussed with the client the fact that improvement may occur in many areas of the client's life, without full abstinence from gambling and that, even if relapses do occur, we know that this does not lead invariably to a resumption in problem or pathological gambling habits (Blaszczynski et al., 1991b). It may also be possible that the client has switched from a previous problem gambling behaviour to other more benign forms of gambling, which will constitute success from treatment.

Treatment programmes have to be tailored to the individual needs of each client. It may also be necessary to develop strategies for other specific factors which have contributed to the gambling problem. These strategies may include:

1. Stimulus control techniques, to help the client effectively avoid or deal with exposure to gambling cues or contact with other gamblers.
2. Stress management techniques, coping skills training, relaxation training, and/or self-hypnosis, to help the client deal with life stresses and their resultant anxiety.
3. Hypnosis to help the client build up their self-esteem, sense of self-worth, and ego-strength. We find that many clients have a negative self-worth as a result of feeling out of control when gambling.
4. Marital therapy to help the client and spouse deal with the loss of trust and increased suspiciousness that may have occurred as a result of the gambling behaviour. There may be anger and resentment on the part of the spouse for the financial strain that gambling may have imposed on the relationship. Many cases of pathological gambling have been associated with physical and emotional abuse of spouse and family, which will also

have to be addressed in therapy.

5. It may be useful to discuss pharmacological adjuncts to treatment. Antidepressants can be useful when the client exhibits dysphoric mood. Serotonin re-uptake inhibitors may also be of assistance in reducing a client's compulsive urge to engage in gambling behaviour.
6. The client may be usefully referred to Gamblers Anonymous, as an ongoing support after therapy has been concluded. As indicated earlier, the research data suggest that GA can be of assistance to help gamblers resist relapses. The gambler's spouse may usefully be referred to Gam-Anon, to help deal not only with the spouse's behaviour, but to understand and deal with their own emotional difficulties.

Treatment of pathological gambling is known to be a long-term process, with some gamblers relapsing well after 18 months of gambling-free behaviour. Given the current lack of controlled research, we do not know if problem gamblers exhibit similar long-term relapse problems, but the possibility of long-term relapses need to be discussed as part of treatment.

Treatment strategies to help clients with pathological and problem gambling problems have been poorly researched and it is only now that the individual and social issues associated with gambling are being addressed in a systematic and controlled manner.

REFERENCES

- Addiction Research Institute. (1995). *Annual report 1994-95*. South Melbourne: Author.
- Allcock, C. C. (1996, 1-4 May). *Epidemiology, aetiology, and treatment of problem gambling*. Keynote address at the Break Even National Practitioners' Conference, Gold Coast.
- Allcock, C. C., & Grace, D. M. (1988). Pathological gamblers are neither impulsive nor sensation-seekers. *Australian and New Zealand Journal of Psychiatry*, 22, 307-311.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Barker, J. C., & Miller, M. (1966, 26 February). Aversion therapy for compulsive gamblers. *The Lancet*, 1, 491-492.
- Beck, A. T. (1993). *Beck Depression Inventory (BDI)*. New York: The Psychological Corporation.
- Bergler, E. (1957). *The psychology of gambling*. New York: Hill and Wang.
- Blackman, S., Simone, R. V., & Thoms, D. R. (1989). The gamblers' treatment clinic of St Vincent's North Richmond Community Mental Health Clinic: Characteristics of the clients and outcome of treatment. *The International Journal of Addictions*, 24, 29-37.
- Blaszczyński, A. P. (1985). A winning bet: Treatment for compulsive gambling. *Psychology Today*, 38-46.

- Blaszczynski, A. P. (1988). *Clinical studies in pathological gambling: Is controlled gambling an acceptable treatment outcome?* Unpublished doctoral dissertation, University of New South Wales, Kensington.
- Blaszczynski, A. P. (1993). Pathological gambling: A treatment review. *Psicologia Conductual, 1*, 409-440.
- Blaszczynski, A. P. (1995, May). Workshop on the assessment and treatment of pathological gambling. Australian and New Zealand Association of Psychiatry, Psychology and the Law Conference, Melbourne.
- Blaszczynski, A. P., & McConaghy, N. (1989). Anxiety and/or depression in the pathogenesis of addictive gambling. *The International Journal of Addictions, 24*, 337-350.
- Blaszczynski, A. P., & McConaghy, N. (1992). *Pathological gambling and criminal behaviour: Report to the Criminology Research Council*. Canberra: Australian Institute of Criminology.
- Blaszczynski, A. P., McConaghy, N., & Frankova, A. (1991a). Control versus abstinence in the treatment of pathological gambling: A two- to nine-year follow-up. *British Journal of Addiction, 86*, 299-306.
- Blaszczynski, A. P., McConaghy, N., & Frankova, A. (1991b). A comparison of relapsed and non-relapsed abstinent pathological gamblers following behavioural treatment. *British Journal of Addiction, 86*, 1485-1489.
- Brown, R. I. (1985). *The effectiveness of Gamblers Anonymous*. Proceedings of the Sixth National Conference on Gambling and Risk Taking. Reno, NA: Bureau of Business and Economic Administration, University of Nevada.
- Brown, R. I. (1987). Drop outs and continuers in Gamblers Anonymous: Part 2. Analysis of free-style accounts of experiences with GA. *Journal of Gambling Behavior, 3*, 68-79.
- Burrows, G. D., & Dennerstein, L. (1988). *Handbook of hypnosis and psychosomatic medicine*. Amsterdam: Elsevier Science Publishers.
- Burrows, G. D., & Stanley, R. O. (1995). *Contemporary international hypnosis*. Chichester: Wiley.
- Coman, G. J., Burrows, G. D., Singer, G., & Singer, L. (1996). *A self help guide for problem gamblers*. Melbourne: Addiction Research Institute.
- Derogatis, L. R. (1977). *SCL-90: Administration, scoring and procedure manual-I*. Baltimore, MD: Johns Hopkins University Press.
- Dickerson, M. G. (1984). *Compulsive gamblers*. London: Longman.
- Dickerson, M. G., Hinchy, J., & Legg England, S. (1990). Minimal treatments and problem gamblers: A preliminary investigation. *Journal of Gambling Studies, 6*, 87-102.
- Emmanuel, N. P., Lydiard, R. B., & Ballenger, J. C. (1991). Fluoxetine treatment of voyeurism. *American Journal of Psychiatry, 148*, 950.
- Evans, B. J. (1995). *Hypnosis in the treatment of anxiety disorders*. Heidelberg: Australian Society of Hypnosis.
- Feist, J., & Brannon, L. (1988). *Health psychology: An introduction to behavior and health*. Belmont, CA: Wadsworth Publishing Company.

- Gambino, B., & Cummings, T. N. (1989). Treatment for compulsive gambling: Where are we now? In H. J. Shaffer, S. A. Stein, B. Gambino, & T. N. Cummings (Eds.), *Compulsive gambling: Theory, research, and practice* (pp. 315–335). Lexington, MA: Lexington Books.
- Greenberg, D., & Rankin, H. (1982). Compulsive gamblers in treatment. *British Journal of Psychiatry*, *140*, 364–366.
- Greenson, R. R. (1947). On gambling. *American Imago*, *4*, 61–77.
- Haller, R., & Hinterhuber, H. (1994). Treatment of pathological gambling with carbamazepine. *Pharmapsychiatry*, *27*, 129.
- Hammond, D. C. (1990). *Handbook of hypnotic suggestions and metaphors*. New York: Norton.
- Hollander, E., Frenkel, M., Decaria, C., Trugold, S., & Stein, D. J. (1992). Treatment of pathological gambling with clomipramine. *American Journal of Psychiatry*, *149*, 710–711.
- Horodecki, I. (1992). The treatment model of the guidance center for gamblers and their relatives in Vienna, Austria. *Journal of Gambling Studies*, *8*, 115–130.
- Knapp, T. J., & Lech, B. C. (1987). Pathological gambling: A review with recommendations. *Advances in Behavior Research and Therapy*, *9*, 21–49.
- Lesieur, H. R., & Blume, S. B. (1987). The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry*, *144*, 1184–1189.
- Lesieur, H. R., & Blume, S. B. (1991). Evaluation of patients treated for pathological gambling in a combined alcohol, substance abuse and pathological gambling treatment unit using the Addiction Severity Index. *British Journal of Addiction*, *86*, 1017–1028.
- McConaghy, N. (1980). Behaviour completion mechanisms rather than primary drives maintain behavioural patterns. *Activitas Nervosa Superior (Praha)*, *22*, 138–151.
- McConaghy, N., Armstrong, M. S., Blaszczyński, A. P., & Allcock, C. (1983). Controlled comparison of aversive therapy and imaginal desensitisation in compulsive gambling. *British Journal of Psychiatry*, *142*, 366–372.
- McConaghy, N., Blaszczyński, A. P., & Frankova, A. (1991). Comparison of imaginal desensitisation with other behavioural treatments of pathological gambling: A two-to nine-year follow-up. *British Journal of Psychiatry*, *159*, 390–393.
- McElroy, S. L., Keck, P. E., Pope, H. G., & Hudson, J. I. (1989). Pharmacological treatment of kleptomania and bulimia nervosa. *Journal of Clinical Psychopharmacology*, *9*, 358–360.
- Moskowitz, J. A. (1980). Lithium and lady luck: Use of lithium carbonate in compulsive gambling. *New York State Journal of Medicine*, April, 785–788.
- Murray, J. B. (1993). Review of research on pathological gambling. *Psychological Reports*, *72*, 791–810.
- Shaffer, H. J. (1989). Conceptual crises in the addictions: The role of models in the field of compulsive gambling. In H. J. Shaffer, S. A. Stein, B. Gambino, & T. N. Cummings (Eds.), *Compulsive gambling: Theory, research, and practice* (pp. 127–134). Lexington, MA: Lexington Books.

- Schwartz, J., & Lindner, A. (1992). Inpatient treatment of male pathological gamblers in Germany. *Journal of Gambling Studies*, 8, 93–109.
- Spielberger, D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists' Press.
- Stanton, H. E. (1993). Ego-enhancement for positive change. *Australian Journal of Clinical and Experimental Hypnosis*, 21, 59–64.
- Stein, D. J., Hollander, E., Anthony, D. T., Schneier, F. R., Fallon, B. A., Liebowitz, M. R., & Klein, D. F. (1992). Serotonergic medications for sexual obsessions, sexual addictions and paraphilias. *Journal of Clinical Psychiatry*, 53, 267–271.
- Taber, J. I., McCormick, R. A., Russo, A. M., Adkins, B. J., & Ramirez, L. F. (1987). Follow-up of pathological gamblers after treatment. *American Journal of Psychiatry*, 144, 757–761.
- Victorian Casino and Gaming Authority. (1995). *Community gambling patterns*. Melbourne: Author.
- Walker, M. B. (1989). Some problems with the concept of "gambling addiction": Should theories of addiction be generalized to include excessive gambling? *Journal of Gambling Behavior*, 5, 179–200.
- Walker, M. B. (1993). Treatment strategies for problem gambling: A review of effectiveness. In W. R. Eadington & J. A. Cornelius (Eds.), *Gambling behavior and problem gambling*. (pp. 533–566). Reno: Institute for the Study of Gambling and Commercial Gaming.
- Winchel, R. M., Jones, J. S., Stanley, B., Molcho, A., & Stanley, M. (1992). Clinical characteristics of trichotillomania and its response to fluoxetine. *Journal of Clinical Psychiatry*, 53, 304–308.
- Zuckerman, M. (1978). The search for high sensation. *Psychology Today*, 11, 30–46.

TYPES OF HYPNOTICALLY (UN)SUSCEPTIBLE INDIVIDUALS AS A FUNCTION OF PHENOMENOLOGICAL EXPERIENCE: A PARTIAL REPLICATION

Elizabeth J. Forbes

Thomas Jefferson University

Ronald J. Pekala

Coatesville VA Medical Center

Subjects were 246 nursing students who experienced the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962) in which was embedded a 2-minute sitting quietly interval. After the Harvard Scale subjects completed the Phenomenology of Consciousness Inventory (PCI) (Pekala, 1982, 1991c) in reference to the sitting quietly interval embedded in the hypnotic induction. Subjects were divided into low and high susceptible groups. *K*-means cluster analysis of the subjects' responses to the PCI revealed two groups of subclusters for high susceptibles and three groups of subclusters for lows. These results partially replicated three prior studies (Pekala, 1991a; Pekala & Forbes, 1996; Pekala, Kumar, & Marcano, 1995). *K*-means cluster analyses were then completed across all subjects, resulting in six different cluster groups. These results partially replicated a prior study (Pekala & Forbes, 1996). Cross-validation analyses comparing the cluster groups of the present study with that of a prior study (Pekala & Forbes, 1996) found that the fantasy and classic highs replicated across studies. These results suggest the use of the PCI to determine not only subjective hypnotic depth, but assignment to one of several different hypnotic types that may have useful implications for clinical treatment.

PRIOR RESEARCH

Research by Pekala (1991a) looked at phenomenological experience associated with being hypnotised across individuals of differing hypnotic susceptibility level. Subjects' phenomenological experience during an administration of the

Requests for reprints should be sent to Ronald J. Pekala, Psychology Service (116B), Coatesville VA Medical Center, Coatesville, PA 19320, U.S.A.

Harvard Scale of Hypnotic Susceptibility (Shor & Orne, 1962) was retrospectively assessed by the Phenomenology of Consciousness Inventory (PCI) (Pekala, 1982, 1991c). The PCI allows for the measurement of phenomenological experience associated with 12 major and 14 minor dimensions of consciousness. Subjects were divided into low and high susceptible subjects. This was followed for the low and high groups by a cluster analysis to determine if the phenomenological experience of hypnosis was characterised by differences in that experience across the three groups.

Pekala (1991a) found two groups or subclusters of high susceptible subjects and three groups of low susceptible subjects. Concerning the high susceptible subjects, one group was characterised by great alterations in state of consciousness and moderate altered experiences; a loss of volitional control, self-awareness, rationality, and memory; and little vivid imagery. This group was labelled *classic highs* since they evinced subjective experiences characteristic of what would be expected of highly hypnotisable subjects (Brown & Fromm, 1986; Hilgard, 1965). The second group of high susceptibles was characterised by moderate alterations in consciousness and experience, a great deal of vivid imagery, moderate positive affect, but only mild-to-moderate losses in rationality and memory. They were labelled the *fantasy highs*, since a predominance of imagery and positive affect suggested the presence of fantasy material.

For the low susceptibles, the largest group consisted of individuals who reported little alteration in altered state of awareness and altered experiences, and almost complete volitional control, self-awareness, rationality, and memory. They were labelled *classic lows* since their subjective experience was characteristic of what is usually expected of individuals who are not hypnotisable (Brown & Fromm, 1986; Hilgard, 1965). The second group of low susceptibles were characterised by moderate alterations in altered state and altered experience, and major decrements in volitional control, self-awareness, rationality and memory. This group was given the label of *pseudolows* since their reported experience was somewhat like that reported by high (or medium) susceptible subjects during hypnosis, in spite of the fact that this group scored below 4 on the Harvard. A third group of low susceptibles was found who had PCI scores midway between the classic and pseudolows, and reported a great deal of internal dialogue. This group was labelled, *dialoguing lows*.

A replication study (Pekala, Kumar, & Marcano, 1995) found three groups of low susceptible subjects and two groups of high susceptible individuals. That study found the same three groups of lows that was found by Pekala (1991a), that is, *classic lows*, *pseudolows*, and *dialoguing lows*, and one of the two groups of highs, that is, the *classic highs*. Instead of finding a group of *fantasy high* susceptible individuals, the replication study found a group of *compliant highs*. The *fantasy highs* of the earlier study were not, however, that different from the *compliant highs* of the replication study. Both the *fantasy highs* and the *compliant highs* had less drops in volitional control, self-awareness, rationality,

and memory than the classic highs, and both groups had less of a reported alteration in consciousness than the classic highs. The differences concern the fact that the fantasy highs (of the initial study) had more vivid imagery and more positive affect than the compliant highs (of the replication study), who had more internal dialogue.

Pekala and Forbes (1996) attempted to replicate the results of Pekala (1991a) and Pekala et al., (1995) with a new subject group. Subjects were 194 nursing students who experienced the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962) in which was embedded a 2-minute sitting quietly period. After the Harvard Scale, subjects completed the PCI (Pekala, 1982, 1991c) in reference to the sitting quietly period embedded in the hypnotic induction ceremony.

Subjects were divided into low and high susceptible groups. *K*-means cluster analysis of the subjects' responses to the PCI revealed three groups of subclusters for the high susceptibles (classic highs, dialoguing fantasy highs, and nondialoguing fantasy highs) and three groups of subclusters for the low susceptibles (classic lows, relaxed lows, and pseudolows). These results partially replicated the two prior studies (Pekala, 1991a; Pekala et al., 1995).

Cluster *K*-means analyses for the Pekala and Forbes (1996) data was again enacted, but this time across *all subjects* using the SYSTAT (Wilkinson & Hill, 1994) *K*-means data analysis procedure and using the 12 major PCI dimensions. The cluster analysis generated nine cluster groups that fragmented at higher *ns*. The names given to each particular cluster (based on the pattern of PCI dimension intensity scores and/or the PCI dimension that most discriminated the particular cluster) were: classic lows, relaxed lows, nondialoguing mediums, dialoguing mediums, visualising high-mediums, rational high-mediums, dialoguing high-mediums, fantasy highs and classic highs.

The *classic lows* had phenomenological experience characterised by the most self-awareness, volitional control and memory, and the least altered state of awareness. Additionally, they had the most internal dialogue, and were the highest in terms of muscular tenseness (arousal). The *relaxed lows* were quite similar to the classic lows, except the relaxed lows had little muscular tension and were also less engaged in internal dialogue. The *dialoguing* and *nondialoguing mediums* had PCI dimension scores for altered state, volitional control, and altered experience midway between that of the lows (classic and relaxed) and the high-mediums and the highs.

The *visualising high-mediums* had the most intact memory, the greatest amount of visual imagery, and the least drop in volitional control of the aforementioned groups. Whereas the *rational high-mediums* had a similar score on rationality as the visualising high-mediums, there was not a great deal of visual imagery for this group. The *dialoguing high-mediums* were somewhat similar to the rational high-mediums, except there was a significant amount of internal dialogue occurring for this group.

The *fantasy highs* had the second highest levels of visual imagery (less than

that of the visualising high-mediums), but had other phenomenological effects consistent with being more deeply hypnotised than the visualising high-mediums, that is, a greater loss of volitional control, lower internal dialogue, a greater alteration in state of awareness, and lower arousal (little, if any, muscular tension) and self-awareness. The *classic highs*, on the other hand, had the lowest levels of self-awareness, internal dialogue, rationality, and volitional control, and a very high level of altered state of awareness.

THE PRESENT INVESTIGATION

Balthazard and Woody (1989) have suggested that “different individuals may enact hypnotic suggestions via qualitatively distinct mechanisms” (p. 71). “If a particular set of processes mediating hypnotic responsiveness is central to a particular clinical effect, then it would be very important to distinguish individuals predominantly characterised by those processes from those who may experience hypnotic suggestions via other alternative processes” (p. 71).

Replication of the prior studies, particularly the replication of the same subject groups found in Pekala and Forbes (1996) *when using all subjects*, with a different subject population would support the contention that different types of individuals may indeed be enacting hypnotic suggestions via qualitatively different mechanisms. *Cross-validation* of the nine subject groups with a different subject population would suggest that the results are not merely due to chance but a function of individual differences that cut across subjects’ scores on a behavioural instrument like the Harvard. The possibility of classifying an individual into one of several types may not only have practical clinical applications (Balthazard & Woody, 1989), but lead to a greater understanding as to exactly what “a hypnotic trance” is.

Additionally, besides using the PCI to generate a pHGS score to give a measure of *hypnotic depth* (Pekala, 1995a, 1995b; Pekala & Forbes, 1988; Pekala & Nagler, 1989), using cluster analysis and subsequent discriminant analysis of PCI dimension scores *across all subjects* may generate a means to statistically define a variety of different *types* of hypnotically (un)susceptible individuals that may be clinically useful.

Hence, it was wondered to what extent, when analysing across all subjects, there might be classic lows or classic highs, or visualising high-mediums, who evince a phenomenological pattern similar to that found in the prior research (Pekala & Forbes, 1996). If there are found to be different “types” of individuals, who phenomenologically respond differently to a hypnotic induction (in spite of their low or high Harvard Scale score), knowing which type of hypnotically (un)susceptible individual a particular client or patient is may be helpful in better devising a treatment plan for working with them (Balthazard & Woody, 1989).

A prior published study (Pekala & Forbes, 1993) reported on the subjects cited in this paper. No cluster analysis was done, however, with these subjects.

Given the subject data base was available, it was decided to see: (a) if classic lows, pseudolows, and classic and fantasy highs would be found with individuals who scored low or high, respectively, on the Harvard Scale, and (b) if the nine clusters found in Pekala and Forbes (1996), when analysing across all subjects of the present data base, would replicate with this subject group.

METHOD

Subjects

Subjects were nursing students ($n = 246$) from Thomas Jefferson University who were interested in learning stress reduction techniques. Students were free to withdraw at any time with impunity. The study was approved by the University Institutional Review Board (IRB).

Materials

The Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962) was used to assess hypnotisability level. The Phenomenology of Consciousness Inventory (PCI) (Pekala, 1982, 1991b) was used to measure subjective experience during a sitting quietly period embedded in the Harvard. The PCI is a self-report instrument that maps 12 major and 14 minor dimensions of subjective experience. The 12 major PCI dimensions (with their abbreviations in parentheses) are: altered state of awareness; altered experience, volitional control, self-awareness, rationality, memory, vivid imagery, inward, absorbed attention, internal dialogue, positive affect, negative affect, and arousal.

The PCI has been found to reliably assess phenomenological experience in general, and hypnotic experience in particular (Pekala, 1991b; Pekala & Kumar, 1987; Pekala, Steinberg, & Kumar, 1986). It has been shown to be of appropriate predictive (Forbes & Pekala, 1993; Hand, Pekala, & Kumar, 1995; Pekala & Kumar, 1984, 1987), and discriminant (Kumar & Pekala, 1988, 1989; Pekala, Forbes, & Contrisciani, 1989; Pekala & Kumar, 1986, 1988;) validity (Pekala, 1991b).¹

Visual imagery scores (when not hypnotised) and expectation to be hypnotised were also obtained across all subjects.

Procedure

Subjects first completed a short demographic scale. Two items on that inventory that have relevance to the present study concerned: (a) subjects estimating how hypnotisable they expected themselves to be, and (b) subjects rating of their visual imagery of an "apple" on a "1" to "5" Likert scale (subjects were asked to close their eyes and estimate the vividness of the apple with "1" representing "no image at all," and "5" representing "as real and vivid as actual experience").

Subjects then experienced the induction procedure of the Harvard Group

Scale of Hypnotic Susceptibility (Shor & Orne, 1962). Embedded in the Harvard (after the eye catalepsy items but before the "counting out" sequence of the Harvard) was a 2-minute time period during which subjects were told to sit quietly with their eyes closed and continue to experience the state that they were in. After coming out of the induction, the subjects completed the response items of the Harvard and the PCI (in reference to a 2-minute time period embedded in the Harvard).

RESULTS

Preliminary Analyses

Across all subjects ($n = 246$), the mean Harvard Group Scale score was 6.16 ($SD = 2.95$). Subjects were then divided into those subjects who scored between 0 and 2 ($n = 35$, $M = 0.88$, $SD = 0.88$) on the Harvard, and those who scored between 10 and 12 ($n = 27$, $M = 10.46$, $SD = 0.74$). This was done to parallel the cut-off scores used in the Pekala et al. (1995) and Pekala and Forbes (1996) studies.

Cluster Analyses Across Low and High Susceptible Subjects

K-means cluster analyses (Hartigan, 1975) were performed on the data using the 12 major PCI dimensions as the dependent variables and subjects as the independent variable. This was done separately for both the high and low susceptible subject groups, using the SYSTAT (Wilkinson & Hill, 1994) *K*-means data analysis programme. The clustering algorithm is an iterative procedure that assigns cases to a specified number of non-overlapping clusters. Clustering occurred on an n plus one basis until fragmentation occurred; that is, cluster analysis divided subjects into 2, 3, 4, etc. mutually exclusive subject groups until one or several of the groups contained only a few cases and clustering at higher n s produced further fragmentation.

K-means cluster analysis for the high susceptible subjects (Harvard Scale scores of 10 to 12) resulted in two distinct clusters. One group ($n = 18$), labelled *classic highs*, had the greatest alterations in altered state of awareness and altered experience, and major losses in self-awareness, volitional control, rationality, and memory, and little in the way of internal dialogue or imagery. A second group ($n = 9$) had lesser alterations in altered state and altered experience, a fair amount of internal dialogue, and visual imagery, and only mild to moderate drops in self-awareness, rationality, and memory. This group was labelled *complaint/fantasy highs*, since although they scored in the upper ranges measured by the Harvard, they were not as highly hypnotisable, phenomenologically, as the classic highs. They also had some subjective characteristics of the fantasy highs of prior research (Pekala, 1991a), and hence appeared to be a mix of the fantasy and complaint (Pekala, et al., 1995) highs found in prior research.

The *K*-means cluster analysis for lows (Harvard Scale scores of 0 to 2) resulted in three clusters. One cluster consisted of 13 of 35 subjects and was characterised by little alteration in state of awareness and altered experience; very little loss of control, self-awareness, rationality, or memory; and high levels of internal dialogue. They were labelled the *dialoging lows*. A second group ($n = 11$) had moderate alterations in state of awareness, mild altered experiences, and moderate losses in volitional control, self-awareness, rationality, and memory. They were labelled *pseudolows*. The third group ($n = 11$) was very similar to the first group, but without the high internal dialogue.

This analysis replicates previous research (Pekala, 1991a; Pekala et al., 1995) with the third group corresponding to the classic lows of that research (who had little alteration in subjective experiences or awareness; and little loss of volitional control, self-awareness, memory, or rationality); and the second group, the pseudolows (although they do not appear that hypnotisable according to the Harvard, they nevertheless report moderate alterations in altered experiences and awareness, and moderate drops in rationality, control, self-awareness, and memory).

The dialoguing lows of the present study also replicate two of the three prior studies (Pekala, 1991a, Pekala et al., 1995). Although the relaxed lows of Pekala and Forbes (1996) have the highest levels of internal dialogue of the three low susceptible groups (classic, pseudo, and relaxed), because the distinguishing characteristic of this group was their very low level of muscle tension (arousal) they were labelled *relaxed lows* instead of *dialoguing lows*.

Analyses Across All Subjects

Cluster analyses Cluster *K*-means analyses were again enacted, but this time *across all subjects* using the SYSTAT (Wilkinson & Hill, 1994) *K*-means data analysis procedure and using the 12 major PCI dimensions. The cluster analysis generated seven cluster groups that fragmented at higher *ns*. (At $n = 6$, there were two groups with only one case, but the analysis at $n = 7$ yielded only one group with one case. At $n = 8, 9$, or 10 , further fragmentation occurred.) The clusters were most discriminable on the basis of memory ($F = 49.88$, $df = 185$, $p < .0001$), altered state of awareness ($F = 47.32$, $df = 185$, $p < .0001$), and altered experience ($F = 35.47$, $df = 185$, $p < .0001$). The one cluster group that consisted of only one subject was dropped from the following analyses.

Table 1 gives the number of subjects in each group, each group's Harvard Group Scale score and predicted Harvard Group Scale (pHGS) score, the name given to that particular cluster (based on the pattern of PCI dimension intensity scores and/or the PCI dimension that most discriminated the particular cluster), the PCI volitional control and PCI altered state of awareness scores, and their imagery score (of the apple) when not hypnotised. (These groups were ordered using the same subject group ordering as reported in Pekala & Forbes, 1996.)

Table 1 Cluster Analysis Results Across All Subjects

Cluster number	<i>n</i>	Name	Harvard Score ^a	PCI pHGS Score ^b	PCI Volitional Control Score ^c	PCI Altered State Score ^d	Visual Imagery Score ^e
#1	31	Classic lows	3.58	3.14	4.78	0.75	1.77
#2	35	Relaxed lows	4.00	3.71	4.55	1.20	1.86
#3	65	Mediums	6.02	5.74	2.45	3.66	1.88
#4	12	Visualisers	5.50	4.42	3.78	2.17	2.50
#5	33	Fantasy highs	8.03	7.76	1.23	5.18	2.01
#6	69	Classic highs	7.77	7.54	1.36	4.58	2.18

^a Scores go from 0 (not hypnotisable) to 12 (highly hypnotisable)

^b Scores go from approximately 1.0 (not hypnotisable) to 9.0 (highly hypnotisable)

^c Scores go from 0.0 (no sense of control) to 6.0 (complete control)

^d Scores go from 0.0 (no altered state of awareness) to 6.0 (extremely altered state of awareness)

^e Scores go from 1.00 (no imagery) to 5.0 (very vivid imagery)

Table 2 illustrates where the subjects for each of the six cluster groups fell in terms of their scores on the Harvard. Notice that there were three classic low susceptible subjects who obtained relatively high scores on the Harvard, and there were also two classic high subjects who obtained relatively low scores on the Harvard. A given cluster group was usually characterised by having a range of Harvard Scale scores.

For purposes of illustration, the aforementioned six different cluster groups have been split into two major divisions and diagrammed in Figures 1 and 2.

The classic lows were so named (see Figure 1) because their phenomenological experience was characterised by the most self-awareness, volitional control, rationality, and memory, and the least altered state of awareness. Additionally, they had the most internal dialogue, and were the highest in terms of muscular tenseness (arousal).

The relaxed lows (of Figure 1) were quite similar to the classic lows, except the relaxed lows had little muscular tension and were also the least engaged in internal dialogue. The mediums had PCI dimension scores indicating relatively high levels of altered state and altered experiences (relative to the low groups) and significant drops in rationality, volitional control, and memory, in comparison to the low groups and appear to parallel the medium groups of Pekala and Forbes (1996).

Table 2 Cluster Groups as a Function of Number of Subjects per Harvard Group Scale Score

Cluster number	Name	Harvard Scale Score												
		0	1	2	3	4	5	6	7	8	9	10	11	12
#1	Classic lows	8	3	2	3	3	5	1	0	1	1	1	0	1
#2	Relaxed lows	3	4	6	2	7	3	3	2	3	1	1	0	0
#3	Mediums	2	3	2	5	4	7	11	12	8	7	3	1	0
#4	Visualisers	0	0	1	2	2	0	2	2	2	0	1	0	0
#5	Fantasy highs	0	0	0	0	2	2	3	4	6	10	4	1	1
#6	Classic highs	0	1	0	1	2	7	5	10	20	10	6	5	2

Figure 1. Cluster Analysis for Three Subject Groups

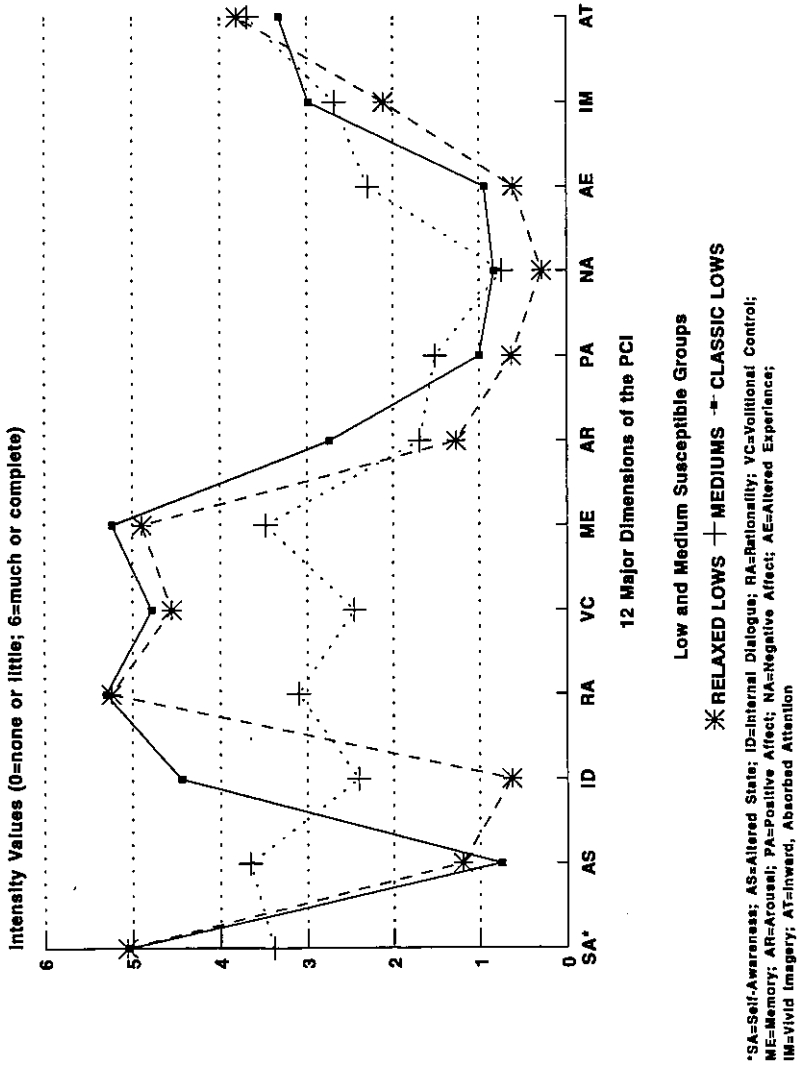


Figure 1. Cluster analysis for three subject groups

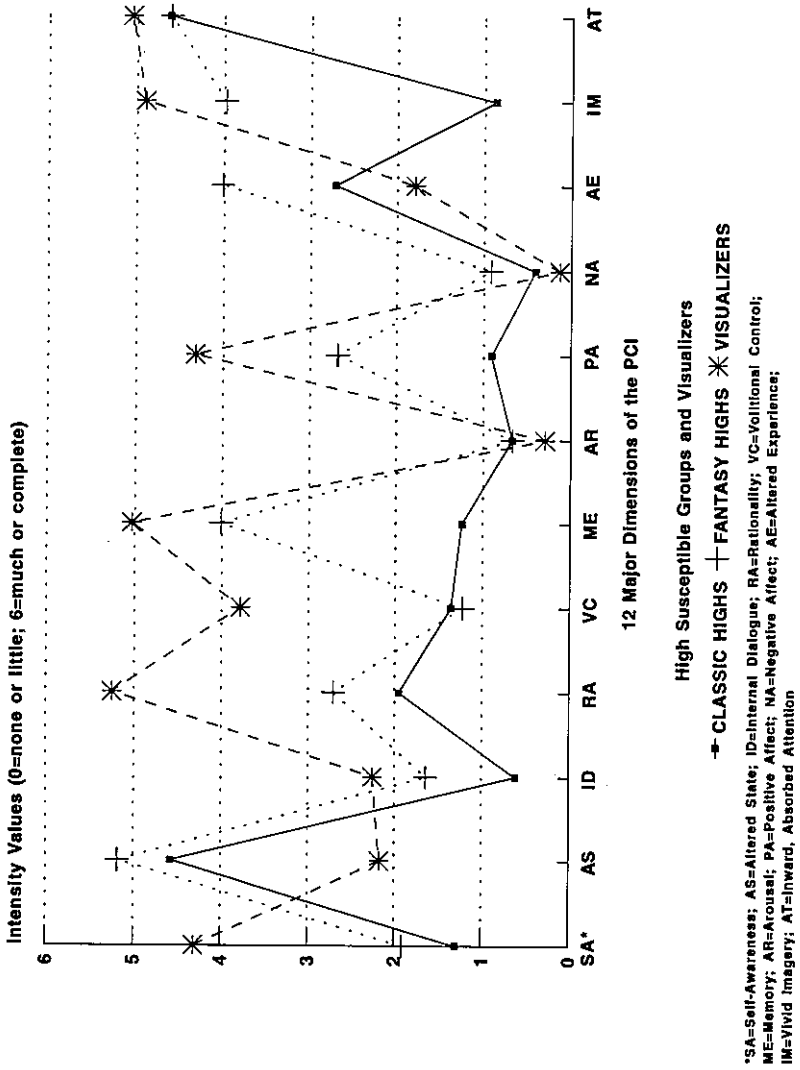


Figure 2 shows that the visualisers (these subjects were similar to the visualising high-mediums of the prior study — their name was changed to more accurately define what was felt to be their defining characteristic — visualisation) had the most intact memory, the greatest amount of visual imagery, and the least drop in volitional control of the three groups. The fantasy highs had the second highest levels of visual imagery, but had other phenomenological effects consistent with being more deeply hypnotised than the visualisers, that is, a much greater loss of volitional control; lower internal dialogue, rationality, and memory; and a much greater alteration in state of awareness. The classic highs, on the other hand, had the lowest levels of self-awareness, internal dialogue, rationality, and memory, and a high level of altered state of awareness. Both the classic and fantasy highs are phenomenologically very similar to the so-named groups of Pekala and Forbes (1996).

Discriminant analysis The aforementioned cluster analysis for the six groups was followed by a discriminant analysis. The discriminant analysis programme of SYSTAT (Wilkinson & Hill, 1994) was used. The PCI 12 major dimensions were used as the dependent variables and the six cluster groups (of the cluster analysis) were the independent variable. This forward stepwise discriminant analysis² resulted in a correct classification ratio of 95% of all subjects and a correct classification ratio of 92% when using a jackknifed classification protocol (using the classification functions computed from all the data *except* the case being classified).

Cross-Validation

Since membership of the subjects in the present study and that of the prior study (Pekala et al., 1995) was known, we attempted to predict membership in the present study from the prior study via discriminant function coefficients. However, because the prior study generated nine groups of subjects, and the present study six groups, it was understood that attempting to predict membership of the present study from the prior study could result in subjects being misclassified, due to a different number of groups.

Discriminant function classification coefficients were obtained from the discriminant function analysis of the Pekala and Forbes (1996) study and each subject of the present study was classified into one of the nine groups obtained with the prior study. Their classification, based on the function coefficients of the prior study, was then compared with their classification of the present study (using the present study's six classification groups). Because the prior study had two groups of mediums (dialoguing and nondialoguing) and two groups of high-mediums (rational and dialoguing), if the classification function coefficients of the prior study assigned the subject to either of the medium or high-medium groups, and the subject was found to be a "medium" in the present study, that classification was scored a "hit." Table 3 shows the classification hit rate for the

Table 3 Number of Subjects in Present Study's Cluster Groups Assigned to Cluster Groups of Prior Study via Discriminant Function Coefficients of Prior Study

Cluster groups of present study	Name	Cluster groups of prior study ^a									Hit rate ^b
		#1	#2	#3	#4	#5	#6	#7	#8	#9	
#1	Classic lows	17	9	0	5	0	0	0	0	0	55%
#2	Relaxed lows	4	20	8	1	2	0	0	0	0	56%
#3	Mediums	0	0	5	19	13	9	15	4	0	77%
#4	Visualisers	0	6	0	1	4	0	0	1	0	33%
#5	Fantasy highs	0	0	0	0	4	0	4	24	1	73%
#6	Classic highs	0	0	2	0	0	6	5	1	55	80%

^a #1 = classic lows; #2 = relaxed lows; #3 = nondialoguing mediums; #4 = dialoguing mediums; #5 = visualising high-mediums; #6 = rational high-mediums; #7 = dialoguing high-mediums; #8 = fantasy highs; #9 = classic highs

^b For each of the six groups: #1: % of classic lows (of present study) found to be classic lows (of prior study); #2: % of relaxed lows found to be relaxed lows; #3: % of mediums found to be either nondialoguing or dialoguing mediums or rational or dialoguing high-mediums; #4: % of visualisers found to be visualising high-mediums; #5: % of fantasy highs found to be fantasy highs; #6: % of classic highs found to be classic highs.

subjects of the present study using the cluster groups of the prior study. A hit rate of about 55% was obtained for the two groups of low susceptibles, while a hit rate of about 76% was obtained for the two groups of high susceptibles. Mediums had a "hit rate" of 77%, while the visualisers, only 33%.

Other Results

Visual imagery scores (vividness of an apple when not hypnotised) were compared across the six groups of subjects using a one-way ANOVA. Although the visualisers obtained the highest visual imagery scores, 2.50 (and the classic lows had the lowest score, 1.77), the ANOVA only approached significance ($F(5,239) = 2.11, p < .06$).

Expectation to be hypnotised scores were also compared across the six groups using a one-way ANOVA. A significant effect was found ($F(5,239) = 4.58, p < .001$). Using the Bonferroni correction procedure, the classic highs ($M = 1.82$) were found to be significantly more likely to expect themselves to be hypnotised than the classic ($M = 0.97$) or the relaxed lows ($M = 0.97$). No other comparisons were significant.

DISCUSSION

Replication of PCI Hypnotic Types for Low and High Susceptible Subjects

The present study partially replicated earlier research (Pekala, 1991a; Pekala & Forbes, 1996; Pekala et al., 1995). That earlier research found two different groups of low susceptibles across three different studies, that is, the classic lows, and the pseudolows. The present study again found the classic lows and the pseudolows. In addition, the present study also found a group of dialoguing lows that were evident in two of the three prior studies. Even the relaxed lows of Pekala and Forbes (1996), however, were relatively similar to the dialoguing lows of the present and two prior studies, but had less internal dialogue although greater decreased arousal than the prior studies.

Concerning the high susceptibles, the present study replicated the classic highs found across all three studies. The present study found a group of compliant/fantasy highs, combining the fantasy highs (Pekala, 1991a; Pekala & Forbes, 1996) and the compliant highs (Pekala et al., 1995) found previously.

Hypnotic Types Across the Spectrum of Harvard Scale Scores

The cluster analysis *across all subjects* generated six groups, several of which replicated Pekala and Forbes's (1996) cluster analysis across all subjects. The present study found the same groups as Pekala and Forbes for classic and fantasy highs, classic and relaxed lows, and visualisers (called visualising high-mediums in the prior study). Whereas Pekala and Forbes (1996) found two types of mediums and two types of high-mediums, the present study found only a single group of mediums. An overall high rate of 62% suggests that a little over three-fifths of the subjects from the present study were found to be in the same (or similar) group when employing criteria from a prior study. Considering that nine groups were compared against six groups, we believe these results supportive of the finding of different "types" of hypnotic individuals.

Interestingly, there were a few classic and relaxed lows who had moderately high scores on the Harvard, that is, above 10; and two classic highs who had relatively low scores on the Harvard. As an example, there was one classic high who scored "1" on the Harvard, and one classic high who scored "3." There were also two classic lows who scored "10" and "12" on the Harvard. Future research will need to determine to what extent these "phenomenological" low and high susceptible individuals are responsive to clinical interventions, given their near opposite score on the Harvard.

Both the present and the prior study, when analysing across all subjects (Pekala & Forbes, 1996), found a group of visualisers. The cross-validation, however, generated only a 33% hit rate. This suggests significant differences in these two groups of subjects that need to be further researched. Pending further replication, these individuals may be rather interesting subjects. The near significant ANOVA results for visualising an apple when not hypnotised suggest

suggest that these may be individuals who are less likely to need a hypnotic induction to generate vivid visual/fantasy material. Consequently, if these individuals can have vivid imagery without an induction, hypnosis may not add a great deal to what they can experience by merely closing their eyes. This may explain why only mild drops in control, rationality, and memory, in comparison to the classic and fantasy highs, were observed with these subjects.

As with Pekala and Forbes (1996), the pseudolows of all four studies (when looking at only low susceptibles) "disappeared" when cluster analysing across all subjects. This suggests that the pseudolows of the low Harvard Scale scores, are really mediums, fantasy highs, visualisers, etc., when cluster analysing across all subjects. This is supported by the distribution of subjects shown in Table 2.

Conclusions and Implications

The cross-validation of the Pekala and Forbes study with a different subject group when cluster analysing across all subjects, suggests that there appear to be "different individuals [who] may enact hypnotic suggestions via qualitatively distinct mechanisms" (Balthazard & Woody, 1989, p. 71). Some people who obtain high scores on the Harvard have phenomenological experiences associated with a great deal of spontaneous visual imagery (the fantasy highs), while others have minds that appear to become empty and altered (the classic highs) with significant feelings of loss of control. There also appear to be some individuals (the visualisers) who may have very vivid imagery even when not hypnotised, and who, when hypnotised, do not get the effects of loss of control and alteration in consciousness usually associated with hypnosis.

We believe it may be important to know which "type" of individual a clinician has when going to utilise hypnotic strategies. Although we also believe that the astute clinician may rather quickly "find out" this information without using an instrument like the PCI, knowing what type of hypnotisable individual a particular person is, may make therapy more efficient and more profitable for the client. Most clinicians do not measure hypnotisability when they see a client (Cohen, 1989) due to a variety of reasons (Barber, 1989; Diamond, 1989; Frankel, 1989; Rossi, 1989; Spiegel, 1989). Yet Mott (1989) suggested that what is needed is not the avoidance of assessment of hypnotic talent but rather "better and less intrusive ways to assess the capacity for hypnotic experience" (p. 2).

In two articles in 1995 the second author presented a less intrusive means to measure hypnotic assessment (Pekala, 1995a, 1995b) using the PCI predicted Harvard Group Scale (pHGS) score. This approach assumes that hypnotisability is a single trait; a linear ability that varies from nonhypnotisable to highly hypnotisable via a ratio scale. Yet clinicians like Frankel (1989) have suggested the multidimensional nature of hypnotic ability. The present data analysis and prior studies imply that the use of the PCI, and subsequent cluster and discriminant analysis of the phenomenological data obtained with it, supports

discriminant analysis of the phenomenological data obtained with it, supports the contention that there are probably several "types" of high and low susceptible individuals. Being able to unobtrusively estimate, not only a person's depth of hypnosis with the use of the PCI pHGS score, but their membership in a particular group, may generate more useful clinical approaches to treatment.

As an example, a client was recently referred to one of the authors who was suffering flashbacks due to his father's unexpected death from a heart attack. Hypnotic assessment with the PCI-HAP (Pekala, 1995a) not only indicated that the adolescent was highly hypnotisable (having obtained a pHGS score of 7.20), but he was also a *visualiser*. He was capable of having very vivid imagery even when not hypnotised, and hence was prone to vivid flashbacks due, we believe, to the unresolved affect associated with his father's untimely death. Not only was this information extremely helpful in explaining to the client's mother that her son was not "crazy" (he had an ability that made him especially prone to such flashbacks), but laid the way for a hypnotic intervention that relied heavily on visual imagery and a "trip to heaven" to help assuage and resolve much of the affect associated with his father's death.

An interesting result of the present study, that replicates prior research (Pekala & Forbes, 1996), is the fact that there are several classic lows who have relatively high Harvard Scale scores, and several classic and fantasy highs who have relatively low Harvard Scale scores. Although it is to be expected that individuals who have high behavioural and subjective scores would be highly hypnotisable, it is unknown to what extent individuals who have a "mismatch" between behaviour and phenomenology are, or are not, highly (or lowly) hypnotisable. Could it be that individuals who are only behaviourally responsive to hypnosis may be behaviourally compliant, but phenomenologically resistant, to hypnosis? And what does this mean in terms of clinical intervention strategies? Measuring both behaviour and subjective response to hypnosis while assessing for clinical efficacy seems to be a next step in determining how subjective and behavioural responsiveness to hypnosis interact.

REFERENCES

- Balthazard, C. G., & Woody, E. Z. (1989). Bimodality, dimensionality, and the notion of hypnotic types. *International Journal of Clinical and Experimental Hypnosis*, 37, 70-89.
- Barber, J. (1989). Invited discussion of Cohen's "Clinical uses of measures of hypnotisability". *American Journal of Clinical Hypnosis*, 32, 10-11.
- Brown, D. P., & Fromm, E. (1986). *Hypnotherapy and hypnoanalysis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, S. B. (1989). Clinical uses of measures of hypnotisability. *American Journal of Clinical Hypnosis*, 32, 4-9.

- Diamond, M. J. (1989). Is hypnotherapy art or science? *American Journal of Clinical Hypnosis*, 32, 11–12.
- Forbes, E. J., & Pekala, R. J. (1993). Predicting hypnotic susceptibility via a phenomenological approach. *Psychological Reports*, 73, 1251–1256.
- Frankel, F. H. (1989). Hypnosis is a multidimensional event. *American Journal of Clinical Hypnosis*, 32, 13–14.
- Hand, J., Pekala, R. J., & Kumar, V. K. (1995). Prediction of Harvard and Stanford Scale scores with a phenomenological instrument. *Australian Journal of Clinical and Experimental Hypnosis*, 23, 124–134.
- Hartigan, J. A. (1975). *Clustering algorithms*. New York: John Wiley & Sons.
- Hilgard, E. R. (1965). *The experience of hypnosis*. New York: Harcourt Brace Jovanovich.
- Kumar, V. K., & Pekala, R. J. (1988). Hypnotisability, absorption, and individual differences in phenomenological experience. *International Journal of Clinical and Experimental Hypnosis*, 36, 80–88.
- Kumar, V. K., & Pekala, R. J. (1989). Variations in phenomenological experience as a function of hypnotic susceptibility: A replication. *British Journal of Experimental and Clinical Hypnosis*, 6, 17–22.
- Mott, T. (1989). Editorial: Hypnotisability testing and clinical hypnosis. *American Journal of Clinical Hypnosis*, 32, 2–3.
- Pekala, R. J. (1982). *The Phenomenology of Consciousness Inventory (PCI)*. Thorndale, PA: Psychophenomenological Concepts. (Now published by Mid-Atlantic. See Pekala, 1991c).
- Pekala, R. J. (1991a). Hypnotic types: Evidence from a cluster analysis of phenomenal experience. *Contemporary Hypnosis*, 8, 95–104.
- Pekala, R. J. (1991b). *Quantifying consciousness: An empirical approach*. New York: Plenum Press.
- Pekala, R. J. (1991c). *The Phenomenology of Consciousness Inventory (PCI)*. West Chester, PA: Mid-Atlantic Educational Institute.
- Pekala, R. J. (1995a). A short, unobtrusive hypnotic assessment procedure for assessing hypnotisability level: I. Development and research. *American Journal of Clinical Hypnosis*, 37, 271–282.
- Pekala, R. J. (1995b). A short, unobtrusive hypnotic induction for assessing hypnotisability level: II. Clinical case reports. *American Journal of Clinical Hypnosis*, 37, 284–293.
- Pekala, R. J., & Forbes, E. J. (1988). Hypnoidal effects associated with several stress management techniques. *Australian Journal of Clinical and Experimental Hypnosis*, 16, 121–132.
- Pekala, R. J., & Forbes, E. J. (1996). *Types of hypnotically (un)susceptible individuals as a function of phenomenological experience: Towards a typology of hypnotic types*. Manuscript submitted for publication.
- Pekala, R. J., Forbes, E. J., & Contrisciani, P. (1989). Assessing the phenomenological effects of several stress management strategies. *Imagination, Cognition, and Personality*, 88, 263–279.

- Pekala, R. J., & Kumar, V. K. (1984). Predicting hypnotic susceptibility by a self-report phenomenological state instrument. *American Journal of Clinical Hypnosis*, 27, 114–121.
- Pekala, R. J., & Kumar, V. K. (1986). The differential organisation of the structures of consciousness during hypnosis and a baseline condition. *Journal of Mind and Behaviour*, 7, 515–539.
- Pekala, R. J., & Kumar, V. K. (1987). Predicting hypnotic susceptibility via a self-report instrument: A replication. *American Journal of Clinical Hypnosis*, 30, 57–65.
- Pekala, R. J., & Kumar, V. K. (1988). Patterns of consciousness during hypnosis: Relevance to cognition and individual differences. *Australian Journal of Clinical and Experimental Hypnosis*, 7, 515–540.
- Pekala, R. J., Kumar, V. K., & Marcano, G. (1995). Hypnotic types: A partial replication concerning phenomenal experience. *Contemporary Hypnosis*, 12, 194–200.
- Pekala, R. J., & Nagler, R. (1989). The assessment of hypnoidal states: Rationale and clinical application. *American Journal of Clinical Hypnosis*, 31, 231–236.
- Pekala, R. J., Steinberg, J., & Kumar, V. K. (1986). Measurement of phenomenological experience: Phenomenology of Consciousness Inventory. *Perceptual and Motor Skills*, 63, 983–989.
- Rossi, E. (1989). Mind–body healing, not suggestion, is the essence of hypnosis. *American Journal of Clinical Hypnosis*, 32, 14–15.
- Shor, R. E., & Orne, E. C. (1962). *The Harvard Group Scale of Hypnotic Susceptibility*. Palo Alto, CA: Consulting Psychologists Press.
- Spiegel, H. (1989). Should therapists test for hypnotisability? *American Journal of Clinical Hypnosis*, 32, 15–16.
- Wilkinson, L., & Hill, M. (1994). *SYSTAT for DOS: Advanced Applications, Version 6 Edition*. Evanston, IL: SYSTAT.

¹ Copies of the PCI and scoring sheets for the inventory are available from the Mid-Atlantic Educational Institute, 309 North Franklin Street, West Chester, PA 19380-2765.

² A SYSTAT programme for generating the unstandardised discriminant function coefficients for the cluster groups is available from Dr Ron Pekala, Psychology Service (116B), Coatesville VA Medical Center, Coatesville, PA 19320.