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DEPRESSION, STYLES OF PRIVATE INNER EXPERIENCE, AND
COPING: A COMPARISON OF PATHOLOGICAL GAMBLERS IN
GAMBLERS ANONYMOUS WITH NONPATHOLOGICALLY
GAMBLING CONTROLS

by

Heather A. Getty

B.A. (Hons.) University of Windsor, 1994

A Thesis
submitted to the Faculty of Graduate Studies and Research
through the Department of Psychology in Partial
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ABSTRACT

The present study compared 29 pathological gamblers in Gamblers Anonymous (GA) and 29 matched non-pathologically gambling controls on the conceptually interrelated constructs of depression, styles of private inner experience, and coping styles. Depression was measured by the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979), styles of private inner experience were measured by the Short Imaginal Processes Inventory (SIPI; Huba, Singer, Aneshensel, & Antrobus, 1982), and coping styles were measured by the Problem-Focused Styles of Coping Inventory (PF-SOC; Heppner, Cook, Wright, & Johnson, 1995). Pathological gamblers reported significantly more depression than controls, but did not demonstrate different styles of private inner experience compared to their nonpathologically gambling peers. Pathological gamblers reported less reflective coping, but more suppressive and reactive coping compared with controls. Implications for theoretical models of pathological gambling, construct validity of the SIPI and PF-SOC instruments, future research in pathological gambling, and treatment of pathological gamblers are discussed.

DEDICATION

This thesis is dedicated to my parents, Ms. Ann Getty and Dr. G. R. Getty, in deep appreciation of their continued unconditional support and encouragement.

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CHAPTER I
INTRODUCTION

The Problem of Pathological Gambling: Definition and Prevalence

Pathological gambling is defined in the DSM-IV (American Psychiatric Association, 1994) as a disorder of impulse control which involves a failure to resist impulses to gamble despite significant disruption of personal, social, and occupational functioning. Salient characteristics of the disorder include an intense preoccupation with gambling, long-term attempts to win back money lost through gambling ("chasing losses"), and/or the achievement of an aroused, euphoric state through gambling (American Psychiatric Association, 1994). Over time, pathological gamblers may need to engage in increasingly risky gambling behaviours to produce these euphoric effects, and attempts to stop or reduce gambling may result in withdrawal-like symptoms such as restlessness and irritability (American Psychiatric Association, 1994; Wray & Dickerson, 1981). Interpersonal difficulties frequently arise when pathological gamblers lie to family, friends, and counsellors to conceal the extent of their involvement in gambling, or when frequent requests are made for financial assistance to replace gambling losses (American Psychiatric Association, 1994). In some cases, individuals with a pathological gambling problem may resort to acts of forgery, embezzlement, or theft to obtain money for gambling (American Psychiatric Association, 1994).

Epidemiological data and studies of the economic, professional, and interpersonal problems of pathological gamblers in treatment suggest that pathological gambling involves not only

great personal suffering for those affected, but entails substantial social costs as well. Epidemiological data suggest the prevalence of pathological gambling to be between one and three percent of the adult North American population (American Psychiatric Association, 1994). Recent telephone survey research in the Windsor metropolitan area by Govoni (1995) suggests the total lifetime prevalence for pathological gambling to be 1.6%, while the prevalence of pathological gambling within the past year was 0.8%. Important debts, loss of productivity at work, family disruption, and significant legal problems have been associated with pathological gambling (Custer, 1984; Ladouceur, Boisvert, Pepin, Loranger, et al., 1994). There is no doubt, given the characteristics and prevalence of pathological gambling, that research to refine our understanding and treatment of this disorder is greatly needed.

The formal conceptualization of pathological gambling as a mental disorder is a relatively recent event, entering conventional psychiatric diagnostic systems in 1980 (American Psychiatric Association, 1980). Perhaps as a result of the recency of this conceptualization, published research in the area of pathological gambling is limited compared with other disorders and is only now becoming more comprehensive and systematic. Much research and theory in the area of pathological gambling has focused on investigating differences between pathological gamblers and control groups in terms of personality, behavioural, and cognitive processes. The goal of these inquiries has been to discern traits that are related to and that may be found to cause or maintain gambling behaviours, as well as to provide information

relevant to the treatment of pathological gambling.

Following theory and empirical data suggesting that depression, depressive cognitive styles, and maladaptive coping play an important role in pathological gambling, the present study examined the levels of the conceptually interrelated constructs of depression, styles of private inner experience, and coping styles in pathological gamblers in Gamblers Anonymous (GA) compared with matched, nonpathologically gambling controls. By examining these variables, the present study attempted to provide data relevant to theoretical models of pathological gambling, suggestions for future research on pathological gambling, and possible treatments for pathological gamblers. In addition to these goals, information was also sought about the relationships between depression and styles of private inner experience, and the extent to which styles of private inner experience are related to styles of coping with stress.

The Role of Depression in Theories of Pathological Gambling: Coping, Need State, and Addiction Models

A number of theoretical models of pathological gambling have emphasized the role of negative inner states such as depression, boredom, and anxiety in motivating and maintaining pathological gambling behaviour. Such theories include coping, need state, and addiction models of pathological gambling.

McCormick's (1987, 1994) coping process model of pathological gambling proposes that negative inner states such as depression and boredom serve as powerful internal triggers for gambling and other ineffective coping responses by pathological gamblers.

According to McCormick (1987, 1994), pathological gambling is a maladaptive coping response which is carried out to reduce or avoid these subjectively intolerable inner states, known as need states. McCormick (1987) suggests that there are two main subgroups of pathological gamblers, each of which is characterized by different enduring need states.

The first theoretical subgroup described by McCormick (1987) consists of pathological gamblers possessing a need state of pervasive depression, including depressogenic cognitive styles (McCormick & Taber, 1988), a greater history of significant life trauma (Taber, McCormick, & Ramirez, 1987), and physiological imbalances related to depression. In this subgroup, the diversion and narrowing of attention associated with gambling, as well as the excitement and stimulation related to these activities, is found to alleviate the pathological gambler's negative mood. The discovery of the mood-enhancing qualities of gambling results in an increased use of gambling to cope with unpleasant inner states. Over time, rebound states of depression that are of greater intensity than the original need state lead to increasingly higher levels of gambling. Financial losses and interpersonal difficulties resulting from gambling further deepen the depressed need state, and increasingly, the pathological gambler's ability to recognize alternative ways of coping other than gambling decreases substantially, a phenomenon referred to as "the cycle of decreasing options" (Lesieur, 1979).

The second subgroup of pathological gamblers described by McCormick (1987) is made up of individuals who experience chronic feelings of boredom and frustration, and who display a need for

novel sources of arousal. For these individuals, the tolerance that develops to exciting gambling situations leads to increasingly frequent and risky patterns of gambling behaviour. As in the case of the recurrently depressed subgroup, the number of coping options perceived as useful for relieving the boredom need state and problems resulting from gambling becomes increasingly narrow over time (Lesieur, 1979). While McCormick (1987) emphasized the existence of dual subgroups of pathological gamblers, subsequent researchers (e.g. Blaszczynski, McConaghy, & Frankova, 1990) have recently extended the notion of subgroups to include individuals who experience enduring need states of both depression and boredom.

The role of negative inner states of depression is also central to general addictions theories of pathological gambling. Jacobs' (1986, 1987) general addictions theory presents pathological gambling as the archetypal form of addiction. According to Jacobs, pathological gambling and other addictions develop in individuals possessing (1) a subjectively aversive physiological resting state that is either chronically underaroused (and associated with depression and boredom) or chronically overaroused (and anxious), and (2) a history of experiences that result in a pervasive sense of personal inadequacy. In vulnerable individuals, gambling is hypothesized to provide an escape from painful inner thoughts and feelings and an opportunity to indulge in dissociative states characterized by wishful fantasies of admiration, competence, and control. Jacobs' model, therefore, is similar to McCormick's need state model in that it emphasizes the role of gambling as an escape response to a

chronic pattern of negative inner experience.

Rosenthal (1993) similarly views pathological gambling as an addiction which serves to regulate affect, arousal, and self-esteem. Like Jacobs (1987), Rosenthal asserts that the pathological gambler is addicted to a "false state of mind", a sense of omnipotence that is derived from gambling and that is diametrically opposed to the frequent feelings of helplessness, depression, and guilt that occur when the individual is not gambling. According to Rosenthal (1993), feelings of low self-esteem and hopelessness precede pathological gambling, and it is these feelings, in interaction with coping styles involving denial, minimization, and self-deception, plus exposure to situations in which gambling is valued, which are the important causes of the disorder.

Empirical Studies of Depression Among Members of Gamblers

Anonymous (GA)

The notion that pathological gamblers experience negative affective states of depression, boredom, and anxiety is supported by studies of individuals in treatment in some of the few inpatient treatment programs available for pathological gambling (Blaszczynski & McConaghy, 1989; Blaszczynski et al., 1990; Blaszczynski, Wilson, & McConaghy, 1986; Kuley & Jacobs, 1988; McCormick, 1993; McCormick, Russo, Ramirez, and Taber, 1984; Moravec and Munley, 1983). For example, Blaszczynski and McConaghy (1989) found that a sample of 75 pathological gamblers seeking inpatient treatment had levels of depression and state and trait anxiety that were greater than those of college students and

similar to normative samples of neuropsychiatric patients. Levels of depression and anxiety were also discovered to be similar across groups of gamblers engaging in different gambling activities.

Similar results emerged in studies of inpatient gamblers conducted by McCormick, Russo, Ramirez, & Taber (1984) and Blaszczyński et al. (1990). McCormick et al. (1984) found that 76% of the pathological gamblers in their inpatient program met Research Diagnostic Criteria for major depressive disorder. Blaszczyński et al. (1990) compared 48 pathological gamblers seeking inpatient treatment with those of 40 normal family physician patients on the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) and Boredom Proneness Scale (Farmer & Sundberg, 1986). Results demonstrated that pathological gamblers seeking inpatient treatment experienced significantly greater levels of depression and boredom proneness compared with normal controls. Overall, studies in hospital settings support the notion that pathological gamblers experience high levels of depression, anxiety, and boredom proneness compared with controls.

As the number of available inpatient treatment programs for pathological gambling are limited, however, results from these studies may reflect the most severe cases of pathological gambling, in which clients had failed in a variety of efforts to control their gambling before seeking hospitalization (McCormick et al., 1984). Despite this caution, however, there is some evidence that gamblers in community self-help treatment (Gamblers Anonymous) also demonstrate elevated levels of depression, anxiety, and boredom. For example, Linden, Harrison, Pope, and

Jonas (1986) examined the presence of mood and anxiety disorders in a sample of 25 pathological gamblers recruited from GA. Linden and colleagues discovered that 72% of GA members had experienced at least one episode of major depression (DSM-III criteria), while 52% had recurrent major affective episodes. In addition, 20% of the sample met DSM-III criteria for anxiety disorders such as panic disorder, agoraphobia, and/or obsessive-compulsive disorder (Linden et al., 1986).

Similar conclusions emerged in studies conducted by Raviv (1993) and Rugle and Melamed (1993). Raviv (1993) found that a sample of 25 GA members showed elevated levels of depression on the revised Symptoms Check List - 90 (SCL-90-R; Derogatis, 1977) compared with non-pathologically gambling controls. Working with nonsubstance-abusing subjects, Rugle and Melamed (1993) compared the personality characteristics of a mixed group of pathological gamblers in GA and inpatient treatment with nonpathologically gambling controls. Results showed that pathological gamblers experienced moderate levels of depression on the BDI (Beck, Rush, Shaw, & Emery, 1979), a level found to be significantly higher than controls. Although Rugle and Melamed did not examine possible differences in depression between GA members and inpatient subjects, overall, such findings suggest that pathological gamblers in GA may experience levels of depression and anxiety comparable to their counterparts in inpatient treatment settings.

In contrast to the research described above, however, a number of studies have noted much lower levels of affective disturbance in samples of pathological gamblers in GA. Such

inconsistent findings include a study by Roston (1965), which found that 30 GA members had MMPI depression scores that were significantly lower than those of psychiatric controls and similar to normal controls. Similarly, Dell, Ruzicka, and Palisi (1981) found that their sample of 35 GA members scored significantly lower than Millon's (1977) psychiatric normative sample on the Neurotic Depression subscale of the Millon Multiaxial Clinical Inventory (MMCI).

Inconsistencies in the levels of depression found in studies of GA members may reflect discrepancies between studies in members' length of involvement in GA, since treatment in GA may be expected to improve gamblers' levels of depression. While length of involvement in GA and length of abstinence from gambling were similar in studies carried out by Linden et al. (1986), which found high levels of depression, and Dell, et al. (1981), which did not, all other studies of depression in GA members provide no information on length of time in treatment (Raviv, 1993; Roston, 1965; Rugle & Melamed, 1993). Further, none of these studies made any explicit attempts to examine or control for relationships between length of involvement in GA, length of abstinence from gambling, and levels of depression.

Such inconsistent findings suggest a need for further investigations of depression in pathological gamblers in GA. Such studies should examine the relationships between length of time in GA and depression, and control for length of abstinence from gambling and variables related to depression, such as age, gender, education level, and income (Beck, Steer, & Garbin, 1988). That depressive inner states are often risk factors for relapse in

addictive disorders including pathological gambling (Cummings, Gordon, & Marlatt, 1980) suggests that assessing depression in pathological gamblers in GA can provide important information for treatment efficacy as well as prognoses of the disorder. Findings of elevated depression may suggest that these symptoms and related life circumstances should be an important focus of treatment, particularly if gambling functions as a means of adjusting to mood imbalances (McCormick et al., 1984).

Further Exploration of Negative Inner States in Pathological Gamblers: Styles of Private Inner Experience

In addition to examining levels of overall depression, one may further illuminate the topography of negative inner experiences in GA members by examining their styles of private inner experience, including the content of daydreams, emotional reactions to these daydreams, degrees of acceptance of inner experience, and related levels of inattention and boredom-proneness. Previous support for the presence of depressive cognitive styles in pathological gamblers comes from a study of inpatient gamblers conducted by McCormick and Taber (1988), which found that pathological gamblers' tendency to show negative attributional styles was correlated with measures of depression and severity of gambling six months after completing inpatient treatment for gambling. In addition to a negative cognitive style characterized by pessimistic attributions of events, one may also expect to find depressive patterns of cognition in pathological gamblers' styles of private inner experience or daydreaming styles.

Relationships Between Depression and Styles of Private Inner Experience

Research in the area of private inner experience has involved a broad definition of daydreaming as those private thoughts and images which are independent of immediate mental and physical activities (Singer, 1975). While daydreams may at times involve relatively fanciful and/or nonrealistic content, research has shown that they are usually realistic, involve content that centres around our current concerns, and are frequently oriented toward problem-solving (Klinger, 1971; Giambra, 1977). Large scale survey research conducted by Singer and colleagues (Huba, Aneshensel, & Singer, 1981; Singer and Antrobus, 1972; Segal, Huba, & Singer, 1980) on the normative aspects of daydreaming and related personality variables suggests that the broad domain of private inner experience can be conceptualized as involving three broad patterns or styles. Each of these styles (Huba et al., 1981; Segal et al., 1980; Singer, 1975) is comprised of various interrelated daydream contents, degrees of acceptance of inner experience, emotional reactions to private thoughts, and related stylistic aspects of cognition, such as characteristic time orientations, boredom proneness, and the ability to sustain one's train of thought.

The first style of private inner experience, referred to by Singer and colleagues (Huba et al., 1981; Segal et al., 1980; Singer, 1975) as a "guilty-dysphoric" or "guilt-fear of failure" daydreaming (Huba et al., 1981; Segal et al., 1980; Singer, 1975) involves frightened reactions and depressing, disturbing imagery, hostile, angry thoughts and themes of guilt for disappointing

others. While this style involves wishful thoughts of achievement, reward, and expertise, it is also remarkable for strong fears of failure. The second pattern of private inner experience described by Singer and colleagues has been referred to as "mindwandering" or "poor attentional control" (Huba et al., 1981; Segal et al., 1980; Singer, 1975). This style involves relatively chaotic thinking patterns characterized by a pervasive inability to maintain one's train of thought. In addition to themes of inattention, poor attentional control also entails a susceptibility to boredom and distractibility. The third style of private inner experience has been referred to as a "positive-constructive style" (Huba et al., 1981; Segal et al., 1980; Singer, 1975). This style reflects positive emotional reactions to, and an acceptance and appreciation of, inner thoughts and images. Individuals with this style often use their cognitive/imaginal capacities for the purpose of problem-solving and tend to demonstrate a future orientation in private thoughts. In addition, the private images of individuals with this style tend to be vivid in visual and auditory modalities.

Several cognitive-behavioural theories of depression predict that an individual's style of private inner experience will vary with their level of depression. In their study of the relationship between depression and daydreaming style, Giambra and Traynor (1978) hypothesized affect to be a primary determinant of daydream content. In contrast, Beck's (Beck, 1976; Beck et al., 1979) cognitive behavioural approach to psychopathology holds negative, distorted cognitions to be primarily responsible for depressive states. Beck (1976) characterized depressed

individuals' stream of thought as marked by themes of overachievement and failure, escape, avoidance, and loss. Beck (1976) also found that depressed individuals' thoughts reflect a "cognitive triad", comprising "a negative conception of the self, a negative interpretation of life experiences, and a nihilistic interpretation of the future".

Extending and elaborating Beck's view of the relationship between the content of the stream of consciousness and affective states, researchers in the area of private inner experience have proposed continuous, multidimensional reciprocal interaction models to explain the relationships between daydreaming, depression, and other factors such as self-concept. For example, Starker (1982) proposes that one's inner affective state and patterns of daydreaming are linked by reciprocal feedback loops. In this model, guilty and fearful daydreams deepen depressive mood states, which leads to more dysphoric thoughts. Within this negative spiral, neither moods, nor private inner thoughts are viewed as primary or causal, but each influences and is influenced by the other.

Support for theories emphasizing a relationship between depression and daydreaming comes from findings that the styles of private inner experience identified by Singer and others (Huba et al., 1981; Segal et al., 1980; Singer, 1975) have been found to correlate meaningfully with a wide variety of measures of depression. Research has established significant positive relationships between guilty-dysphoric daydreaming, poor attentional control and clinical ratings of depression and scores on self-report measures of depression such as the BDI (Beck et

al., 1979), the Zung Self-Rating Depression Scale (ZSRDS; Zung, 1965), the Lubin Depression Adjective Check Lists (DACL; Lubin, 1965), and the Depressive Experiences Questionnaire (DEQ; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982) (Cundiff & Gold, 1979; Giambra & Traynor, 1978; Golding & Singer, 1983; Shultz, 1976, cited in Zelin et al., 1983; Starker & Singer, 1975a,b). Results of studies of relationships between positive-constructive daydreaming and overall measures of depression have been more equivocal, with some studies finding no significant relationships (Cundiff & Gold, 1979; Giambra & Traynor, 1978) and others finding significant inverse correlations between these variables (Shultz, 1976, cited in Zelin et al., 1983; Starker & Singer, 1975b).

Given reports of high levels of depression and boredom proneness in pathological gamblers, and the observed relationship between such states and the styles of private inner experience, one may expect that in addition to showing significant levels of depression, pathological gamblers in GA would show elevated levels of guilty-dysphoric daydreaming and poor attentional control, and lower levels of positive-constructive daydreaming compared with non-pathologically gambling controls.

As in the case of assessing overall levels of depression in pathological gamblers, illumination of pathological gamblers' styles of private inner experience may have important implications for treatment. While findings of elevated depression scores may indicate a general need to address affective disorders in the treatment of pathological gamblers, evidence of specific depressive cognitive styles may provide suggestions for a range of specific cognitive strategies to alleviate depression in therapy.

For example, findings that pathological gamblers possess pervasive negative daydreaming styles may suggest that research on the usefulness of training in more constructive styles may be beneficial.

The Relationship Between Styles of Private Inner Experience and Broad Styles of Problem-Focused Coping

The types of private inner thoughts and images one characteristically formulates may also be seen as related to an individual's broader style of coping with stressful situations. From this perspective, examining the characteristic daydreaming styles of pathological gamblers may also shed light on their characteristic coping behaviours. The notion that daydreams function as an aspect of coping is apparent in historical writings (e.g., Freud, 1959, cited in Silberfeld, 1978), current descriptions of daydream behaviour (Greenwald & Harder, 1994; Singer, 1975; Zelin et al., 1983), and the inclusion of items reflective of daydreaming in contemporary measures of coping (e.g., Coping Inventory for Stressful Situations, Endler & Parker, 1990; Felton Coping Scale, Felton, Revenson, & Hinrichsen, 1984; Sustaining Fantasy Questionnaire, Zelin et al., 1983).

Contemporary cognitive-behavioural oriented conceptualizations of daydreaming have stressed its problem-solving functions. Daydreams have been seen to largely focus on an individual's current concerns (Klinger, 1971) and the emotions that these concerns arouse. Singer (1975) has emphasized that our daydreams help us to become aware of important concerns and desires, and that daydreams about problematic life situations

often lead to reappraisals of stressors or to the generation of novel, efficient solutions to problems. Indeed, Giambra's (1974, 1977) cross-sectional studies of the patterns of private inner experience of normal males aged 17-91 showed realistic, problem-solving daydreams to be the most prevalent type of daydreaming across virtually all age groups. With specific reference to pathological gamblers, the notion that daydreams may function as an aspect of coping is apparent from Jacobs' general addictions theory, which, as previously described, proposes that gamblers cope with feelings of depression and inferiority by escaping through gambling to wishful fantasies of success. Indeed, Jacobs' (1987) model emphasizes the notion that characteristic daydreaming styles are an important aspect of pathological gamblers' general coping style.

Given the theoretical support for the general coping function of daydreaming, one may hypothesize that the different styles of private inner experience described by Singer and colleagues (Singer, 1975; Huba, et al., 1981) may be related to different adaptive and maladaptive coping styles. One recent typology of adaptive and maladaptive coping styles has been proposed by Heppner and colleagues (Heppner, Cook, Wright, & Johnson, 1995). Heppner and colleagues identify reflective, suppressive, and reactive styles of coping as three broad, measurable styles of responding to stressful situations. According to Heppner et al. (1995), a reflective style of coping is characterized by a tendency to examine causal relationships, plan, and be systematic in coping. A reactive style of coping, in contrast, refers to a tendency to be impulsive and to have emotional and cognitive

responses that deplete the individual and distort coping activities. The third style, a suppressive style of coping, involves avoidance, escapism, confusion, disorganization, and a lack of persistence in problem-solving.

One may hypothesize that a style of private inner experience characterized by persistent frightened reactions, guilt, hostile thoughts towards others, and fears of failure may be related to an emotionally reactive style of coping that is less likely to lead to effective problem-solving. One may also hypothesize that a style of inner experience characterized by poor attentional control, with its core of low boredom tolerance, distractibility, and mindwandering, may be related to a somewhat avoidant, disorganized, suppressive approach to coping which, like the reactive pattern, may lead to less effective problem resolution. In addition, one may hypothesize that a style of private inner experience characterized by positive problem-solving daydreams, an appreciation and acceptance of inner experience, and a future orientation in thought (a positive-constructive style) may be related to an adaptive, reflective, problem-focused approach to coping. From this perspective, then, the styles of private inner experience characteristic of pathological gamblers may be related to their characteristic coping behaviours.

Theoretical and Empirical Studies of Coping in Pathological Gamblers

Little empirical work has been done on describing the broad coping styles of pathological gamblers. While some psychodynamically oriented theorists such as Rosenthal (1986,

1993), have emphasized gamblers' high levels of self-deception and the use of primitive unconscious defenses such as denial, splitting, and projection, little empirical work has been done to explicitly examine coping as conscious cognitive, behavioural, or emotional responses across a range of situations. Lesieur's (1984) observations of gamblers' tendencies to chase losses and to experience a decreasing spiral of coping options strongly suggests that pathological gamblers have impaired coping abilities. Similarly, theories which see pathological gambling as a coping response to negative inner states suggest that gamblers exhibit escapist, maladaptive coping styles.

McCormick (1994) compared the coping skills of a sample of 140 male VA patients with both a gambling and substance abuse problem with those of 989 non-gambling, substance-abusing controls. The results suggest that pathological gamblers in treatment show significant coping skills deficits in a variety of critical domains. The sample of gambling substance-abusers in McCormick's study were found to over-rely on coping skills which emphasized avoiding the problem at hand and minimizing the significance of the stressful situation. The gamblers were also significantly weaker in the skill of positive reappraisal, or focusing on the positive aspects of negative events. They also used significantly more confrontative, hostile, and aggressive coping strategies. Based upon McCormick's (1994) finding that pathological gamblers display impulsive and avoidant coping behaviours, one may hypothesize that pathological gamblers in GA will display elevated levels of the types of suppressive and reactive coping described by Heppner et al. (1995). Such further

exploration of the coping styles of pathological gamblers in GA would extend present knowledge about the personality and behavioural characteristics of pathological gamblers, as well as provide suggestions for treatment. For example, findings could suggest whether coping skills enhancement should be used with pathological gamblers, and if so, which particular coping skills should be emphasized.

Depression, Styles of Private Inner Experience, and Coping:
A Comparison of Pathological Gamblers in Gamblers Anonymous
with Nonpathologically Gambling Controls

Following theoretical and empirical evidence emphasizing the role of negative inner states and coping skills deficits in pathological gambling, the present study examined depression, styles of private inner experience, and coping in a sample of pathological gamblers in GA compared with matched controls without a gambling problem. It is hoped that the results of the present study will lead to suggestions for future research on the etiology, nature, and treatment of pathological gamblers. For example, following theories that gambling represents a maladaptive attempt to modify negative inner states, findings of elevated levels of depression and pervasive, negative styles of private inner experience would suggest the importance of addressing these issues in individual, group, or family therapy. Further, findings of negative daydreaming patterns may also suggest the usefulness of evaluating imagery and cognitive restructuring techniques in treating pathological gamblers. In terms of the examination of coping styles, an extended and refined understanding of the

characteristic ways in which pathological gamblers deal with stressful situations will yield information important for understanding the general personality functioning of pathological gamblers and may provide suggestions for the treatment of pathological gambling. Currently, many treatment programs for problem gamblers use abstinence from gambling as the criterion of improvement in treatment. While abstinence from pathological gambling should likely remain a primary criterion of change, research demonstrating specific styles of maladaptive coping would support the importance of assessing gamblers' coping repertoires and would suggest specific interventions for training alternative, adaptive ways of coping with stressful situations.

Following theoretical models highlighting the role of depression and boredom in motivating pathological gambling, and findings of relationships between depression and styles of private inner experience, it was expected that compared with controls, pathological gamblers in GA would demonstrate: (1) higher levels of depression and depressive daydreaming styles; (2) lower levels of positive, vivid, problem-solving daydreams; (3) higher levels of suppressive and reactive coping, and (4) lower levels of reflective coping.

Based on theories stressing reciprocal interactions between cognition and affect, it was also hypothesized that both guilty-dysphoric daydreaming and poor attentional control would be related with depression as measured by the BDI (Beck et al., 1979). To investigate the relationship between styles of private inner experience and coping, the following were hypothesized: (1) a guilty-dysphoric style of daydreaming would be positively

related to a reactive style of coping; (2) poor attentional control would be positively related to a suppressive style of coping, and (3) a style of private inner experience characterized by subjectively positive, vivid, problem-solving daydreams (positive-constructive daydreaming) would be positively related with reflective problem-focused coping.

CHAPTER II

METHOD

SubjectsGamblers Anonymous subjects.

Twenty-nine members of GA groups in Southwestern Ontario and Michigan took part in the present study. Ten of these individuals were also beginning treatment at a branch of the Canadian Foundation for Compulsive Gambling. Of the 29 GA subjects, 20 (69%) were male and nine (31%) were female. This gender ratio approximated the gender ratios of GA meetings attended by the primary researcher. Subjects' ages ranged from 22 to 69 years, with a mean of 43.79 years (SD = 11.96). In terms of years of schooling, one subject (3.4%) had an eighth grade education, five (17.2) had some secondary school, 9 (31%) finished secondary school, four (13.8%) had some community college, five (17.2%) had some university, four (13.8%) had a bachelor's degree, and one (3.4%) had a graduate degree. Five subjects (17.2%) reported annual household incomes of less than \$20,000; two (6.9%) reported incomes between \$20,000 and \$29,000; nine (31%) between \$30,000 and \$39,000; three (10.3%) between \$40,000 and \$49,000; two (6.9%) between \$50,000 and \$59,000; two (6.9%) between \$60,000 and \$69,000; and three (10.3%) between \$70,000 and \$79,000. One subject (3.4%) reported an annual household income between \$80,000 and \$100,000, and two (6.9%) reported incomes greater than \$100,000.

All 29 subjects surpassed the SOGS cutoff of 5 for probable pathological gambling within the past year (range = 5 - 20, mean = 11.86, SD = 3.72). The mean length of involvement in GA was 17.43

weeks (SD = 35.97 weeks). Twenty-four gamblers (82.8%) had been attending GA meetings for 4 months or less, while single subjects had been members of GA for 9, 10, 12, and 18 months, respectively (3.4% each). One subject (3.4%) reported being involved in GA for 3 1/2 years.

Controls.

The control group was comprised of 29 nonpathological gamblers matched on age, gender, education, and total household income. This group consisted of individuals who were contacted 12 months earlier during a random telephone survey of the prevalence of gambling behaviours in Windsor (Govoni, 1995), and for whom SOGS, education, sex, and income data were available. Only those individuals who had given verbal consent to be recontacted for future studies on gambling were contacted.

Controls' scores on the modified SOGS for the past year ranged from zero to two, with a mean of .28 (SD = .65). Of the total sample of 29 controls, 20 (69%) were male, and 9 (31%) were female. Controls' ages ranged from 24 to 69, (mean = 43.34). In terms of years of schooling, seven subjects (24.1%) had some secondary school, five (17.2%) finished secondary school, five (17.2%) had some community college, two (6.9%) completed college; four (13.8%) had some university, four (13.8%) had a bachelor's degree, and two (6.9%) had a graduate degree. Six controls (20.7%) reported an annual household income of less than \$20,000; one (3.4%), an income of between \$20,000 and \$29,000; six (20.7%) between \$30,000 and \$39,000; five (17.2%) between \$40,000 and \$49,000; and two (6.9%) between \$50,000 and \$59,000. Three

subjects (10.3%) each reported incomes in the ranges of between \$60,000 and \$69,000, \$70,000 and \$79,000, and \$80,000 and \$100,000.

Instruments

Demographic information sheet.

A five-item questionnaire was designed to elicit information on subjects' age, sex, education level, and total household income before taxes. The questions were taken directly from a manual used for a recent telephone survey of the prevalence of gambling behaviours in Windsor (Govoni, 1995), and were included to facilitate the matching of GA subjects with controls. For subjects participating in GA, one item was added to elicit information about length of time in GA.

South Oaks Gambling Screen (SOGS).

The South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987) is a 20-item, multiple choice, self-report questionnaire which measures lifetime gambling behaviours. The screen is based upon DSM-III diagnostic criteria for pathological gambling and contains questions about the nature, frequency, and consequences of a wide variety of gambling activities. A score of five or more has been selected as indicative of probable pathological gambling, and the authors reported that this cutoff correctly classified 98% of their sample of GA members, and identified as pathological gamblers 5% of their undergraduate sample and 1.3% of their sample of hospital employees (Lesieur & Blume, 1987). Preliminary evidence also suggests that the SOGS is a highly reliable

screening instrument (Lesieur and Blume, 1987). In sum, the SOGS appears to have good reliability and validity within the populations studied.

As the present study sought to identify only those GA members actively involved in pathological gambling within the past year, the SOGS was modified to focus on a one-year time frame instead of the lifetime prevalence of gambling. It should be noted that the SOGS was not originally validated for a one year time frame and that the results for the modified screen can be considered as suggestive only.

Beck Depression Inventory (BDI).

The BDI (Beck et al., 1979) is a 21-item, multiple choice, self-report measure of the intensity of recent depressive symptoms. BDI scores of <10 indicate minimal or no depression, while scores of 10-18 represent mild to moderate depression. Scores in the range of 19-29 reflect moderate to severe depression, while scores greater than 30 indicate severe depression (Beck, et al., 1988).

The BDI has been shown to have high internal consistency in psychiatric and nonpsychiatric samples (mean coefficient alpha = .87), and test-retest reliability coefficients for the BDI are above .60 (Beck et al., 1988). Support for the construct validity of the BDI comes from findings of strong correlations between the BDI, clinical ratings of depression, and a wide range of self-report measures of depression (Beck et al., 1988). The BDI has also been shown to discriminate between samples of psychiatric and nonpsychiatric patients, between subtypes of depression, and

between major depressive disorder and generalized anxiety disorder (Beck et al., 1988). In sum, The BDI has been shown to be a reliable and valid instrument for the measurement of depression.

Short Imaginal Processes Inventory (SIPI).

The SIPI (Huba, Singer, Aneshensel, & Antrobus, 1982) is a 45-item self-report inventory measuring three distinct styles of private inner experience or daydreaming. The SIPI was developed as a short form of the Imaginal Processes Inventory (IPI; Singer & Antrobus, 1970, 1972), a 344-item, 28-scale measure of daydreaming and related stylistic aspects of private cognition. The three daydreaming scales measured by the SIPI, guilty-dysphoric daydreaming, poor attentional control, and positive-constructive daydreaming, reflect second-order factors derived from the IPI. Each of the three styles measured by the SIPI are heterogeneous scales, comprised of related thought contents, reactions to daydreaming, degrees of acceptance of daydreaming, and related stylistic aspects of thought (ie., distractibility, boredom proneness, time orientation of thought, vividness of imagery). Each scale consists of 15 items which require subjects to make frequency or attitude judgements on a 5-point Likert scale.

Research on the psychometric properties of the SIPI suggest that it is a reliable measure of daydreaming styles. Coefficient alphas for internal consistencies for the three styles are .82, .83, and .80 for the guilty-dysphoric, poor attentional control, and positive-constructive scales respectively (Huba et al., 1981; Huba & Tanaka, 1983). Tanaka and Huba (1986) report one-month

test-retest reliabilities of .73, .73, and .59 for the respective scales.

Support for the convergent and discriminant validity of the SIPI comes from findings of theoretically meaningful relationships between specific SIPI scales and various subtypes of depression (Golding & Singer, 1983). Support for the validity of the SIPI can also be inferred from studies involving the second-order factors of the IPI from which the SIPI is derived. Theoretically meaningful relationships between the IPI scales and various temperament and personality measures have been reported (Singer & Antrobus, 1963, 1972; Giambra, 1977; Segal et al., 1980, Chapter 9). The construct validity of the IPI has also been supported by series of thought-sampling studies (Isaacs, 1975, cited in Huba, 1980; Singer, 1974) and investigations of the relationship between the three daydreaming styles, sleep disturbance, nocturnal dreams, and written fantasies (Starker, 1974). In sum, research suggests that the SIPI is a reliable and valid measure of styles of private inner experience.

Problem-Focused Style of Coping (PF-SOC).

The PF-SOC (Heppner et al., 1995) is an 18-item self-report measure of stable coping styles. The PF-SOC measures reflective, suppressive, and reactive styles of coping with everyday stressful situations. Items include cognitive, behavioural, and affective coping activities, and subjects respond to each item by making frequency judgements on a five point Likert frequency scale.

Preliminary research suggests that the scales of the PF-SOC are reliable and valid measures of coping styles. Heppner and

colleagues (1995) report internal consistency alphas of between .77 and .80 for the reflective subscale, .76 - .77 for the suppressive style, and .67 - .73 for the reactive style, suggesting that the PF-SOC scales show acceptable levels of homogeneity. Three-week test-retest reliabilities for the scales are .67, .65, and .71 for the reflective, suppressive, and reactive styles, respectively (Heppner et al., 1995).

Support for the concurrent, convergent, and discriminant validity of the PF-SOC scales comes from findings of relationships between these scales and a range of widely-used coping inventories, tests of personality, and measures of anxiety, depression, and general psychological symptoms (Heppner et al., 1995). In sum, the available research demonstrates that the styles of coping measured by the PF-SOC possess respectable levels of reliability and validity.

Heppner and colleagues (1995) point out that the PF-SOC was developed with samples of undergraduate university students and for this reason, generalizations about the instrument's reliability and validity must be restricted to this population at this time. Despite this warning, the multidimensional nature of the PF-SOC scales, the brevity of test administration, and the clarity of the PF-SOC items made the PF-SOC the instrument of choice in the current study.

Procedure

GA members were asked to volunteer in a questionnaire study of "depression, coping, and gambling" [verbal instructions for GA

subjects (which also include instructions for a related longitudinal study of GA) are presented in Appendix B]. To ensure that the gambling sample was relatively homogeneous and that all subjects approximated DSM-IV criteria for pathological gambling, participation was elicited from only those subjects experiencing significant difficulties controlling gambling within the past year. Matched control subjects were contacted by telephone and offered the opportunity to volunteer in the present study (Verbal instructions for control subjects are presented in Appendix D). Subjects were given a package containing the demographic information sheet, SOGS, BDI, SIPI and PF-SOC. Participants completed all questionnaires individually in their spare time and returned the completed forms in a stamped, addressed envelope provided by the researcher.

Subjects were asked to refrain from including their names on survey materials; thus, their responses were anonymous. Questions about the study were addressed at the time packages are given out. In addition, participants were encouraged to contact the researcher by telephone if further assistance was necessary. Brief written summaries were mailed to interested subjects upon completion of the study.

CHAPTER III

RESULTS

Postal Response Rates

Approximately 70 packages of questionnaires were distributed at 13 GA meetings in Southwestern Ontario and Michigan. Of these packages, thirty-four were returned in the mail, reflecting a 49% response rate. Sixty-two potential controls were contacted by telephone. Of this number, 10 individuals (16%) declined to participate in the study, while packages were distributed to 52 individuals who agreed to participate. Of these packages, 46 were returned by post, reflecting an 88% response rate.

Data Screening

Prior to analysis, depression, length of time in GA, the SIPI styles of private inner experience, and the coping styles of the PF-SOC were examined for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analysis. With the exception of length of time in GA, variables were examined separately for the pathological gambling and control groups.

Of the total 34 completed packages received from members of GA, 2 were dropped as members had not gambled within the past year, and 1 was dropped due to incomplete SOGS data. Of the 46 completed packages returned by control subjects, 1 case was dropped for surpassing the SOGS cutoff for probable pathological gambling, 5 were dropped as their reported income did not match reports given during the previous telephone survey, and 11 were dropped as subjects were duplicate or less accurate matches with

GA subjects.

Normality of distributions was checked by examining normal and detrended normal probability plots and Shapiro-Wilks and Lilliefors tests of normality. Two cases from the pathological gambling group were dropped as subjects represented extreme outliers on the variable of length of time in GA (7 1/2 years and 20 years in GA, respectively). With these outliers deleted, 29 subjects remained in both the pathological gambling and control groups. After deletion of the two most deviant cases from length of time in GA, a logarithmic transformation was applied to normalize the distribution of this variable.

One case in the gambling group was found to be a univariate outlier on the dimension of positive-constructive daydreaming. In this case the subject's score on the variable was changed to be one unit greater than the next largest score in the distribution. In this way, the score could be retained and was extreme, but was not as deviant as before (see Tabachnik & Fidell, 1989, p. 70). The same approach was taken to reduce the impact of a univariate outlier on poor attentional control in the control group. The decision to recode the outlying scores in the latter two cases (and not delete them, as was done with outliers on length of time in GA) was made on the basis that the scale of positive-constructive daydreaming and poor attentional control was somewhat more arbitrary and hence, more modifiable than the more meaningful scale of length of time in GA.

The variable of depression as measured by the BDI (Beck et al., 1979) was found to be significantly positively skewed in the control group. A square-root transformation was applied to

normalize the distribution of this variable. All other variables did not deviate significantly from a normal distribution.

Pairwise linearity was checked using within-group scatterplots and found to be satisfactory. The presence of multivariate outliers was examined by calculating Mahalanobis and Cook's distances with $p < .001$ for each case within groups. No cases were found to be significant outliers on the combinations of dependent variables. The assumption of homogeneity of variance was tested by Levene's statistic with $p < .001$. Heterogeneity of variance was found for the variable of suppressive coping, and a reciprocal power transformation was applied to stabilize the amount of variance across groups. Finally, equality of numbers of subjects in the gambling and control groups was deemed to ensure robustness of the subsequent MANOVA with regards to assumptions of homogeneity of variance-covariance matrices and homogeneity of regression (Keppel, 1991, p. 317; Tabachnick & Fidell, 1989, p. 379).

Matching of Demographic Variables

To determine whether there were differences between gambling and control subjects in terms of demographic variables, a t -test for independent groups was conducted on the variable of age and Mann-Whitney U tests were conducted on the ordinal variables of education and income. Results indicated that the two groups did not differ significantly on age ($t(56) = .15, p = .885$), education ($U = 394, z = -.42, p = .675$), or income ($U = 404.50, z = -.25, p = .801$).

Relationships Between Length of Time in GA and Depression, Styles of Private Inner Experience, and Coping Styles

To investigate the possibility that length of time in GA was related to lower levels of depression, styles of private inner experience, and coping styles, bivariate Pearson correlation coefficients were calculated between this independent variable and all dependent variables (DVs) within the pathological gambling group. As can be seen in Table 1., none of these correlation coefficients was statistically significant. As a result of such lack of significance, length of time in GA was not controlled in subsequent analyses.

Comparisons of Depression, Styles of Private Inner Experience, and Coping Styles

To test hypotheses that pathological gamblers would exhibit higher levels of depression, guilty-dysphoric daydreaming, and poor attentional control, lower levels of positive-constructive daydreaming and reflective coping, and greater levels of suppressive and reactive coping compared with controls, a one-way, between-subjects multivariate analysis of variance was performed on these seven dependent variables. The independent variable was group status (pathological gamblers in GA vs. non-pathologically gambling controls). Means and standard deviations for DVs in both groups are presented in Table 2. A multivariate significant effect was found ($F(7, 50) = 4.20, p = .001$). The results reflected a moderate association between group status and the combined DVs, $\eta^2 = .37$.

Following a significant multivariate effect, analyses were

Table 1.

Correlations Between Length of Time in GA and Depression, Styles of Private Inner Experience, and Coping Styles (GA Group)

	Length of time in GA
Guilty-dysphoric style	-.004
Poor attentional control	.07
Positive-constructive style	.09
Depression	-.09
Reflective coping	-.35
Suppressive coping	.14
Reactive coping	-.16

Note. n = 29.

Table 2.

Mean Depression, Styles of Private Inner Experience, and Problem-Focused Coping (with Standard Deviations) for Pathological Gamblers and Controls

Variable	Pathological gamblers		Controls	
	M	SD	M	SD
Depression (BDI)	17.24	11.02	8.55	6.64
Guilty-dysphoric style	41.79	9.53	38.07	10.88
Poor attentional control	46.93	11.59	42.76	10.71
Positive-constructive style	46.72	7.07	46.59	10.72
Reflective coping	20.90	5.41	24.59	4.92
Suppressive coping	18.03	6.55	12.07	3.70
Reactive coping	15.38	4.16	11.48	3.24

Note. n = 29 per group

conducted to assess the extent to which groups differed on individual DVs. As the DVs were correlated, Roy-Bargmann stepdown F-tests were conducted to obtain a statistically pure picture of the extent to which groups differed on each DV (Tabachnik & Fidell, 1989, p. 400). In stepdown analysis, each DV was analyzed, in turn, with higher priority DVs treated as covariates and with the highest-priority DV tested in a univariate ANOVA. The DVs were entered into stepdown analysis in the following order: guilty-dysphoric style, poor attentional control, positive-constructive style, depression, reflective coping, suppressive coping, and reactive coping. As guilty-dysphoric daydreaming and poor attentional control were hypothesized to reflect subtle symptoms of depression, it was felt that it would be necessary to examine group differences on these variables before variance attributable to total depression scores was removed, possibly obscuring true group differences on these dimensions. Depression scores, then styles of coping, were then entered into stepdown analysis to examine the extent to which coping styles were related to depressed mood. As the ordering of specific styles within this general framework was somewhat arbitrary (ie., entering reflective coping prior to suppressive coping, etc.), results of univariate ANOVAs were also examined to assist interpretation of between-group differences on individual DVs (Tabachnick & Fidell, 1989, p. 402). Results of these analyses, as well as power estimates reflecting the likelihood of correctly detecting true group differences, are shown in Table 3. An experimentwise error rate of seven percent was achieved by an apportionment of alpha at .01 per analysis.

Table 3.

Univariate ANOVAs and Stepdown F Tests

Variable	<u>Univariate</u>				<u>Stepdown</u>		
	df	F	p	Power	df	F	p
Gdysph	1/56	1.92	.171	.275	1/56	1.92	.171
PAC	1/56	2.03	.160	.287	1/55	.68	.413
Poscons	1/56	.003	.954	.036	1/54	.01	.913
Depress	1/56	12.05	.001	.926	1/53	8.63	.005
Reflect	1/56	7.37	.009	.758	1/52	3.63	.062
Suppress	1/56	18.21	.000	.987	1/51	4.07	.049
React	1/56	15.85	.000	.974	1/50	6.42	.014

Note. n = 29 per group. Gdysph = Guilty-dysphoric style; PAC = Poor Attentional Control; Poscons = Positive-constructive style; Depress = Depression; Reflect = Reflective coping; Suppress = Suppressive coping; React = Reactive coping.

As shown in Table 3, univariate F and stepdown analyses indicated that the three styles of private inner experience measured by the SIPI (guilty-dysphoric, poor attentional control, and positive-constructive) did not differ significantly between pathological gamblers in GA and matched controls without gambling problems. Pathological gamblers and controls did differ significantly in terms of depression, with the gambling group experiencing a moderate level of depression on the BDI (mean = 17.24, SD = 11.02) and controls experiencing minimal or no depression (mean = 8.55, SD = 6.64; stepdown $F(1, 53) = 8.63$, $p = .005$, $\eta^2 = .18$). In the gambling group, 27.6% (8 subjects) reported minimal or no depression, 34.5% (10 subjects) reported mild to moderate depression, 20.7% (6 subjects) reported moderate to severe depression, and 17.2% (5 subjects) reported severe depression. In the control group, 72.4% (21 subjects) reported no or minimal depression, 17.3% (5 subjects) reported mild to moderate depression, 10.3% (3 subjects) reported moderate to severe depression, and none reported depression within the severe range.

In terms of the coping styles measured by the PF-SOC, univariate analysis suggested that in general, pathological gamblers showed lower levels of reflective coping compared with controls (mean for gamblers = 20.90, SD = 5.41; mean for controls = 24.59, SD = 4.92; univariate $F(1, 56) = 7.37$, $p = .009$, $\eta^2 = .76$). However, stepdown analysis indicated that once the effects of inner experience and depression had been statistically removed, the two groups did not differ significantly in their levels of reflective coping (stepdown $F(1, 52) = 3.63$, $p = .062$). This

pattern of results suggests that the lower levels of reflective coping shown by pathological gamblers was strongly related to their levels of depression and styles of private inner experience.

A similar pattern of results emerged for suppressive coping. While univariate F tests suggested that pathological gamblers engaged in significantly more suppressive coping behaviours, (mean for gamblers = 18.03, SD = 6.55; mean for controls = 12.07, SD = 3.70; univariate $F(1, 56) = 18.21, p = .000, \eta^2 = .99$), stepdown analysis indicated that the two groups were not different in suppressive coping once differences associated with styles of private inner experience, depression, and reflective coping had been removed (stepdown $F(1, 51) = 4.07, p = .049$). As reflective coping did not share a significant amount of variance with suppressive coping (gambling group, $r = -.30, p = .112$; control group; $r = -.16, p = .398$), these results indicate that pathological gamblers' levels of suppressive coping was strongly related to their levels of depression and styles of private inner experience.

With respect to the variable of reactive coping, pathological gamblers in GA were significantly more reactive than controls, even when shared variance attributable to all higher-priority dependant variables (styles of private inner experience, depression, reflective and suppressive coping) had been statistically removed (mean for gamblers = 15.38, SD = 4.16; mean for controls = 11.48, SD = 3.2; univariate $F(1, 56) = 15.85, p = .000, \eta^2 = .97$; stepwise $F(1, 50) = 6.42, p = .014$).

Relationships Between Depression and Styles of Private Inner Experience

To test hypotheses that depression would correlate positively with guilty-dysphoric daydreaming and poor attentional control, and negatively with positive-constructive daydreaming, bivariate Pearson correlations between the BDI and SIPI scales were calculated for both the pathological gambling and control groups. The more restricted range associated with depression in controls was expected to result in lower correlation coefficients in this group. As a result, correlations within both groups were examined to maximize overall interpretation of the relationships between variables. Correlations between depression and styles of private inner experience are presented in Table 4.

As shown in Table 4, a significant positive correlation was observed between depression and a guilty-dysphoric style of private inner experience within the pathological gambling group, $r = .58$, $p = .001$. Further, depression and poor attentional control were also significantly and positively correlated within the pathological gambling group ($r = .48$, $p = .009$). Correlations between these variables failed to meet statistical significance in the control group, and no significant correlations were observed between depression and a positive-constructive style of inner experience in either the gambling or the control groups.

Relationships Between Styles of Private Inner Experience and Problem-Focused Coping

To test hypotheses that guilty-dysphoric, poor attentional control, and positive-constructive styles of private inner

Table 4.

Correlations Between Depression and Styles of Private Inner
Experience in Pathological Gamblers and Controls

Style	Depression	
	Pathological gamblers	Controls
Guilty-dysphoric	.58**	.11
Poor attentional control	.48*	.32
Positive-constructive	-.22	.04

Note. n = 29 per group.

*p = .001; **p = .009.

experience would correlate significantly and positively related with reactive, suppressive, and reflective styles of coping, bivariate Pearson correlation coefficients were calculated between the scales of the SIPI and PF-SOC for both groups. As in the case with depression, the more restricted range associated with suppressive and reactive coping in controls was expected to result in lower correlation coefficients in this group. As a result, correlations within both groups were examined to maximize overall interpretation of the relationships between variables. Correlations between styles of private inner experience and coping styles in both groups are presented in Table 5.

As can be seen in Table 5, there were significant positive correlations between a guilty-dysphoric style of inner experience and suppressive and reactive coping within the pathological gambling group ($r = .53$, $p = .003$ and $r = .57$, $p = .001$, respectively). The correlation between poor attentional control and suppressive coping approached but fell short of statistical significance ($r = .35$, $p = .06$). In addition, a significant negative correlation was observed between poor attentional control and reflective coping within the pathological gambling group, $r = -.49$, $p = .007$. Correlations between these variables failed to meet statistical significance in the control group, and no significant correlations were observed between a positive-constructive style of inner experience and any of the coping styles in either the gambling or the control groups.

Additional Analyses

Each of the SIPI scales of private inner experience (Huba et

Table 5.

Correlations Between Styles of Private Inner Experience and
Problem-Focused Coping Styles in Pathological Gamblers and
Controls

Style of coping	Style of Private Inner Experience		
	Gdysph	PAC	Poscons
Pathological gamblers (n = 29)			
Reflective	-.31	-.49***	.11
Suppressive	.53**	.35	.04
Reactive	.57*	.26	.18
Controls (n = 29)			
Reflective	.27	.25	.19
Suppressive	-.04	.17	.29
Reactive	.18	.28	.02

Note. Gdysph = Guilty-dysphoric; PAC = poor attentional control;
Poscons = positive-constructive.

***p = .007; **p = .003; *p = .001.

al., 1982) are comprised of various item-groupings reflective of different thought contents, attitudes and reactions to private inner experience, and related stylistic aspects of thought (ie., time orientation of thought, distractibility). The positive-constructive scale of the SIPI, for example, includes item groupings such as acceptance of daydreaming (which also seem to reflect problem-solving), positive reactions to inner experience, imagery vividness, problem-solving daydreams, and a future orientation in thought.

Following findings of nonsignificant correlations between a positive-constructive style of inner experience and reflective coping, an additional analysis was conducted to determine the extent to which the positive-constructive scale was conceptually different from a reflective style of coping. The bivariate Pearson correlation between a modified positive-constructive scale and reflective coping was calculated to determine whether SIPI items reflective of problem-solving daydreams correlated significantly with a reflective style of coping. Results showed that the correlation between a modified positive-constructive scale (made up of items reflecting problem-solving and acceptance of daydreaming) and reflective coping failed to reach statistical significance in each group (GA group, $r = .16$, $p = .401$; controls, $r = .15$, $p = .432$). This result suggests that the problem-solving items of the SIPI tap different underlying variables than the reflective style of coping measured by the PF-SOC.

CHAPTER IV

DISCUSSION

Summary and Discussion of FindingsDepression and pathological gambling.

The hypothesis, based upon coping, need-state and addiction models of pathological gambling, that GA members would report elevated levels of depression compared with controls was strongly supported in the present study. Data indicated that pathological gamblers in GA reported moderate levels of depression on the BDI (Beck et al., 1979), while controls reported little or no depression. The finding of increased levels of depression in pathological gamblers in GA converges with studies of depression in pathological gamblers in inpatient settings (e.g., Blaszczynski & McConaghy, 1989; Blaszczynski et al., 1990; McCormick et al., 1984; Moravec & Munley, 1983), and with some studies of depression in members of GA (Linden et al., 1986; Raviv, 1993). The present finding diverges, however, from findings of no depression in some GA samples compared with controls (Dell et al., 1981; Roston, 1965).

The reasons for these disparate findings are difficult to interpret. As abstinence and controlled gambling have been associated with reduced depression and increased social adjustment in pathological gamblers (Blaszczynski, McConaghy, & Frankova, 1991; Russo, Taber, McCormick, & Ramirez, 1984), such inconsistencies may reflect systematic biases between studies in subjects' levels of involvement in gambling. Assessments of the extent to which biases in abstinence or controlled gambling may

have been factors in producing these discrepant results are prevented by the failure of most studies to provide information relevant to these variables (e.g., Raviv, 1993; Roston, 1965; Rugle & Melamed, 1993). The present study attempted to control for length of abstinence and controlled gambling by including only GA members who had experienced recent and significant difficulties controlling gambling. In addition, the present study examined the relationship between length of involvement in GA, and controlled for a wide range of variables related to gambling, depression, and coping, including age, gender, education, and income (i.e., see Beck et al., 1988; Heppner et al., 1995). As a result, the results of the present study, in conjunction with results from the majority of studies of depression in pathological gamblers, provide strong support that at least a significant subset of pathological gamblers in inpatient treatment and GA report high levels of depression compared with nonpathologically gambling peers.

The design of the present study does not permit inferences to be made concerning the temporal order of depression and pathological gambling behaviour. Elevated levels of depression in GA members may reflect an underlying developmental predisposition for pathological gamblers to become depressed, a factor which may motivate their gambling behaviours. Such a possibility is consistent with need state and general addictions theories proposed by McCormick (1987), Jacobs (1987), Rosenthal (1993) and others (e.g., Custer & Milt, 1985; Taber & Boston, 1987). Alternatively, depression may neither precede nor motivate the onset of pathological gambling, but may occur mainly as a result

of financial and other difficulties stemming from inevitable gambling losses (Roy, Custer, Lorenz, & Linnoila, 1988, cited in Legg England & Gotestam, 1991). In addition to explanations that depressed mood either precedes or results from pathological gambling, it is also possible that both processes may be at work, to some extent, in pathological gamblers in GA. That is, depression and gambling may interact in complex ways, with depression providing a vulnerability to addiction that worsens as difficulties associated with gambling begin to emerge. Longitudinal studies or controlled retrospective studies utilizing objective data may help to clarify the extent to which depression reflects a chronic need state and/or results from difficulties related to gambling losses.

Regardless of the temporal order of depression in relation to the original onset of pathological gambling, the finding of elevated levels of depression has important implications for the treatment of pathological gamblers. There is evidence to suggest that negative moods such as depression, frustration, and boredom play an important role in exacerbating existing gambling problems. Self-report studies of pathological gamblers, alcohol and drug abusers, and compulsive overeaters have identified negative emotional states as important determinants of relapse (Blaszczynski and McConaghy, 1989; Cummings et al., 1980; Dickerson, Hinchy, and Legg-England, 1991, cited in Legg-England & Gottestam, 1991; Griffiths, 1995). Laboratory and field studies have also shown that persistence at gambling while losing is associated with pathological gamblers' depressed or unaroused mood at the start of a gambling session (Dickerson, 1993). These

results, in conjunction with present findings of elevated overall levels of depression in GA members, suggest the need for therapy for depression and coping skills enhancement in the treatment of individuals with gambling problems. These implications for treatment will be explicated more fully later in the discussion.

Styles of private inner experience and pathological gambling.

To further illuminate the topography of negative inner experiences in pathological gamblers, GA members and controls were compared on the variables of guilty-dysphoric daydreaming, which involves frightened reactions to depressing daydreams, and guilty, fearful, and hostile thoughts; poor attentional control, which comprises mindwandering, boredom-proneness, and distractibility; and positive-constructive daydreaming, which involves positive reactions to vivid, planful, and future-oriented thoughts (Singer, 1975).

Following support for elevated levels of depression in pathological gamblers (e.g., Linden et al., 1986; Blaszczynski et al., 1990; Rugle & Melamed, 1993), cognitive-behavioural theories highlighting the presence of negative thought patterns in depressed individuals (Beck, 1976), and previous findings of positive relationships between depression, guilty-dysphoric daydreaming and poor attentional control (e.g. Cundiff & Gold, 1979; Giambra & Traynor, 1978; Starker & Singer, 1975a,b), it was hypothesized that the depressed gambling group would exhibit greater levels of guilty-dysphoric daydreaming and poor attentional control than nondepressed, nonpathologically gambling controls. Following some findings of inverse relationships

between depression and positive-constructive daydreaming in psychiatric samples (Starker & Singer, 1975a,b), it was also hypothesized that the depressed gambling group may show lower levels of positive-constructive daydreaming than controls. These hypotheses were not supported by the data, which indicated that controls were as likely as GA members to exhibit guilty-dysphoric daydreaming, poor attentional control, and positive-constructive daydreaming.

The result of comparable levels of guilty-dysphoric daydreaming and poor attentional control between pathological gamblers and controls is unexpected and difficult to interpret. This is particularly true given findings of significant, positive correlations between these variables and depression in the present study. These relationships suggest that although group differences between gamblers and controls were not significant, severity of depression was associated with some increase in the frequency of guilty-dysphoric thoughts, difficulties in concentration, and boredom-proneness. These results are consistent with findings that levels of negative cognition vary with the intensity of depression (Beck, 1987), that difficulties in concentration are often associated with depression (American Psychological Association, 1994), and with findings that guilty-dysphoric daydreaming and poor attentional control are correlated to depression in normal and psychiatric samples (Cundiff & Gold, 1979; Giambra & Traynor, 1978; Starker & Singer, 1975; Starker & Singer, 1975b).

Even in addition to their relationships with depression, the guilty-dysphoric and poor attentional control styles comprise

qualities of inner experience which would be expected to discriminate between pathological gamblers and controls. For example, in addition to its association with depression, a guilty-dysphoric style is comprised of hostile and achievement-oriented thoughts which, based upon findings of elevated hostility in pathological gamblers (Dell et al., 1981; McCormick, 1994) and the important role of wishful fantasy in general addictions theories (Jacobs, 1986, 1987), would be expected to differ between GA members and controls. In addition to its association with depression, the scale of poor attentional control possesses considerable face validity for the measurement of distractibility, mindwandering, and boredom-proneness. Following findings that pathological gamblers in inpatient and nontreatment settings receive elevated scores on self-report tests of depression and boredom proneness (Blaszczynski et al., 1990; Kuley & Jacobs, 1988), that inpatient and GA gamblers demonstrate deficits on neuropsychological tests of attention (Rugle & Melamed, 1993), and that pathological gamblers in inpatient treatment and GA often have childhood histories of attention deficit disorder (Carlton et al., 1987; Carlton & Manowitz, 1992; Rugle & Melamed, 1993), one would expect poor attentional control to differ between GA members and controls.

A number of alternative explanations may be proposed to account for the lack of group differences in guilty-dysphoric daydreaming and poor attentional control. Given the strong theoretical bases for expecting differences between pathological gamblers and controls on these variables, the relatively extensive empirical support for the construct validity of the SIPI styles

(Giambra & Traynor, 1978; Golding & Singer, 1983; Segal et al., 1980, Chapter 9; Singer & Antrobus, 1972), and the present findings of significant relationships between these styles and depression, one may speculate that a lack of statistical power may be responsible for the present lack of between-group differences on these variables. This hypothesis is bolstered by the fact that the means for gamblers and controls on guilty-dysphoric daydreaming and poor attentional control differed in the expected direction. Alternatively, one may also speculate that the presence of nondepressed GA subjects who did not possess negative cognitive styles may have "washed out" group differences on guilty-dysphoric daydreaming and poor attentional control. The fact that close to a full three-fourths of the GA sample surpassed BDI cutoffs for depression, however, may be seen to reduce the extent to which this may have occurred. Finally, the lack of significant between-group differences on guilty-dysphoric daydreaming and poor attentional control may simply reflect the fact that although negative and chaotic thinking do increase to some extent with elevated depression, this increase is simply not substantial enough to lead to significant group differences on the scales measured by the SIPI. Future studies may clarify the extent to which low statistical power, sample heterogeneity, and/or modest underlying magnitudes of effect were responsible for the present lack of significant between-group differences.

The hypothesis that pathological gamblers in GA may report lower levels of planful, positive-constructive imagery as a result of their depression was also not supported. Positive-constructive daydreaming was also found to be unrelated to depression in both

the GA and control groups. These results are inconsistent with findings that positive-constructive daydreaming is inversely related with symptoms of depression in psychiatric patients (Shultz, 1976, cited in Zelin et al., 1983; Starker & Singer, 1975b), but are similar to other findings that positive-constructive daydreaming is not related to depression in large samples of undergraduates and incarcerated adult males (Cundiff & Gold, 198; Giambra & Traynor, 1978). One may speculate from the lack of significant group differences on positive-constructive daydreaming, and the nonsignificant relationship between this style and depression, that positive, playful, and problem-solving imagery of the type measured by the SIPI is conceptually separate from and not mutually exclusive with depression in pathological gamblers.

Problem-focused styles of coping and pathological gambling.

Based upon clinical impressions of pathological gamblers as impulsive, avoidant, and deficient in problem-solving (e.g., Custer & Milt, 1985; Rosenthal, 1993), as well as preliminary empirical evidence that pathological gamblers possess maladaptive coping styles (McCormick, 1994), it was hypothesized that GA members in the present study would report lower levels of systematic, planful problem-solving (a reflective coping style), higher levels of avoidant coping (a suppressive style), and higher levels of reactive coping, which includes a preoccupation with problems and impulsive, depleting emotional reactions to problems. Congruent with these expectations, the present study found that pathological gamblers in GA reported lower levels of reflective

coping, elevated levels of suppressive coping, and greater levels of reactive coping than matched non-pathologically gambling peers.

GA members' reported levels of reflective and suppressive coping were found to be related to their self-reported levels of depression. The design of the present study, however, does not allow inferences to be made about whether the relationship between coping and depression is causal, or about the direction of possible causal relationships. It may be the case that the lower levels of reflective coping and higher levels of suppressive coping reported by GA members are contingent upon the presence of a depressive state, as group differences on these variables failed to reach significance once variance attributable to depression was removed. This interpretation, while feasible, is based upon statistical considerations and one may speculate alternatively that a deficit in reflective coping or an overreliance on suppressive coping may result in depression. It may also be the case that depression and coping interact in a reciprocal manner, such that increased depression leads to decreased ability to think and reflect on difficulties and to develop adequate solutions to problems. This, in turn, could lead to deepened depression. In addition, a third, or multiple, unidentified factors may mediate the relationship between depression and reflective and suppressive coping. Longitudinal studies of the relationship between depression and coping may help to clarify these processes.

Regardless of the direction of causation, however, the present study shows that a substantial group of pathological gamblers in GA report significant deficits in reflective coping, including the ability to examine causal relationships, work

systematically at problems, evaluate long and short-term consequences of solutions, and plan ahead. Further, this subgroup also reported an overreliance on avoidant and suppressive coping behaviours across a variety of stressful situations.

In addition to findings of lower levels of reflective coping and higher levels of suppressive coping in pathological gamblers in GA, the present study found that GA members reported significantly more reactive coping behaviours across stressful situations than their nonpathologically gambling peers. This group difference was maintained even after variance attributable to depression was removed, suggesting that a reactive coping style may be a pervasive and chronic aspect of pathological gamblers' behaviour, rather than a condition contingent upon depression.

The present findings of deficits in reflective coping and overreliance on suppressive and reactive coping are consistent with clinical impressions and empirical evidence showing pathological gamblers to be impulsive, avoidant, and poor in problem-solving (Custer & Milt, 1985; Rosenthal, 1984, 1993; Lesieur, 1979; McCormick, 1994). The present findings have a variety of important implications for the psychological treatment of pathological gamblers. These treatment implications will be described more fully later in the discussion.

Relationships between styles of private inner experience and problem-focused styles of coping.

The present study also examined the extent to which styles of private inner experience were related to styles of problem-focused styles of coping. Based upon theoretical assertions of

the coping functions of daydreaming (Singer, 1975; Klinger, 1971; Zelin et al., 1983) and similarities in the content of the scales of the SIPI (Huba et al., 1982) and PF-SOC (Heppner et al., 1995), it was hypothesized that there would be significant and positive correlations between (1) a guilty-dysphoric style of private inner experience and reactive coping, (2) poor attentional control and suppressive coping, and (3) a positive-constructive style of inner experience and reflective coping. These hypotheses were partially supported by the data.

As expected, a significant positive relationship was found between a guilty-dysphoric style of private inner experience and reactive coping. In contrast to expectations, no significant positive correlations were found between poor attentional control and suppressive coping or between positive-constructive daydreaming and reflective coping. Poor attentional control was, however, negatively and significantly correlated with a reflective style of coping, and guilty-dysphoric daydreaming was found to correlate significantly and positively with suppressive coping. All significant correlations were found within the pathological gambling group; this may reflect the fact that controls showed truncated ranges on reactive and suppressive coping compared with the pathological gambling group.

The positive and significant relationships between guilty-dysphoric daydreaming and reactive and suppressive coping may be seen to provide support for the convergent validity of the scales of the SIPI and PF-SOC. An examination of these three scales indicates some similarity of content. For example, a guilty-dysphoric style of inner experience involves a tendency toward

frightened and panic reactions to depressing thoughts, hostile thoughts, persistent guilt, and chronic fears of failure. Similarly, the items of the reactive coping scale of the PF-SOC describe a preoccupation with problems and impulsive, depleting emotional reactions to difficulties which results in poor problem resolution. In addition to comprising items similar to reactive coping, the guilty-dysphoric style also includes a number of items which may be seen as similar to suppressive coping. For example, the wish-fulfilling/achievement-oriented fantasy and fears of failure underlying a guilty-dysphoric style may be seen as somewhat similar to the avoidance and failure to act on problems inherent in the PF-SOC suppressive coping style. Given the similarities in content between these scales, one may speculate that a guilty-dysphoric style of inner experience may be tapping the same underlying variables as Heppner's (1995) measures of reactive and suppressive coping, and may in fact be somewhat reflective of these styles of coping across stressful situations. Continued studies on the coping functions of daydreaming in general and the styles of the SIPI in particular are needed to confirm this latter hypothesis.

In addition to the pattern of correlations outlined above, the significant negative correlation between poor attentional control and reflective coping supports the discriminant validity of the SIPI and PF-SOC instruments. The significant negative correlation between poor attentional control and reflective coping is consistent with findings that poor attentional control is positively related with depression and that depression is negatively correlated with a reflective coping style. An

examination of these scales suggests that poor attentional control embodies a style of inattention and difficulty in concentrating that is much opposed to the systematic, planful thought described by the PF-SOC reflective style. That subscales of the SIPI and PF-SOC correlate in a theoretically meaningful fashion provides important evidence for the convergent and discriminant validity of these scales.

In contrast to the significant findings described above, the hypothesized positive relationships between poor attentional control and suppressive coping and a positive-constructive style of inner experience and reflective coping did not emerge. In the case of the positive-constructive scale, a further analysis was conducted to determine the extent to which positive-constructive daydreaming was conceptually different from a reflective style of coping. As a positive-constructive style of inner experience is a heterogenous construct reflecting acceptance of and positive reactions to daydreams, use of daydreams for problem-solving, a future orientation in thought, and vivid mental imagery, it was hypothesized that variance associated with items less related to problem-solving (such as vividness of imagery and positive reactions to daydreams) may have led to a truncation of the correlation between this scale and reflective coping. When scores on only those positive-constructive items reflecting problem-solving and acceptance of daydreaming (which also seems to reflect problem-solving; see Appendix F) were correlated with reflective coping, however, significant correlations still failed to emerge. This result suggests that the problem-solving aspects of the positive-constructive scale may exemplify a much smaller scope

than those of the reflective coping scale, and represent a somewhat more passive and less direct approach to problem-solving. Overall, poor attentional control and the positive-constructive scale as a whole seem to tap different underlying factors than the suppressive and reflective styles measured by the PF-SOC (Heppner et al., 1995).

General Implications of Findings

Theoretical implications.

The results of the present study provide strong empirical support for profiles of pathological gamblers as depressed, impulsive and avoidant in stressful situations, and lacking in adequate reflective problem-solving skills (e.g., Custer & Milt, 1985; McCormick, 1987, 1994). These observations yield a number of important suggestions for research on and treatment of pathological gambling. These implications are discussed at length below.

The results of the present study also provide empirical support for assumptions of cognitive-behavioural theories of depression and clinical impressions of the coping functions of daydreaming. The finding of significant relationships between depression and negative styles of private inner experience support cognitive-behavioural models which stress an interaction between depression and negative thought patterns (Beck, 1976; Beck et al., 1979). In addition, findings of significant correlations between guilty-dysphoric daydreaming and suppressive and reactive coping may support theoretical notions of daydreaming as a form of coping behaviour (Singer, 1975; Zelin et al., 1983).

Implications for future research.

Findings that a substantial number of GA members report high levels of depression compared with peers suggest that future research assess the extent to which gamblers may possess a chronic depressive need state that precedes the onset of gambling or whether depressive symptoms result primarily from legal and financial difficulties from gambling. Although a number of clinicians suspect that the depression experienced by pathologically gambling clients is not just a temporary reaction to immediate situations, but reflects developmental vulnerabilities for depression (Custer & Milt, 1985; Jacobs, 1987; McCormick et al., 1984; Taber & Boston, 1987), more research on this question is needed. In cross-sectional studies, the temporal sequence of gambling and depression are often difficult to determine with any reliability (McCormick et al., 1984). Individuals with gambling problems often have clear memories of the onset of their gambling habits, but memories of their history of depressive symptoms are frequently less clear (McCormick et al., 1984). It is therefore the task of researchers to develop appropriate longitudinal designs or to utilize objective retrospective data to clarify the temporal relationships between depression and pathological gambling. Findings of such studies may yield important suggestions for the prevention and treatment of pathological gambling.

In addition to examining temporal relationships between depression and pathological gambling, future research could profitably examine the pattern of changes in gambling, depression, and coping styles that occur over the course of participation in

GA. In the present study, pathological gamblers' length of involvement in GA was not associated with improvements in depression, styles of private inner experience, or coping styles. It should be noted, however, that to ensure the relative homogeneity of the gambling sample, only GA members experiencing difficulties controlling gambling during the past year were recruited for the present study. This method of selecting subjects prevented any analysis of the effects of controlled gambling or different lengths of abstinence on depression and coping.

Preliminary evidence from outcome studies of inpatient treatment of pathological gamblers suggests that controlled gambling and abstinence are associated with improved interpersonal relationships, better financial status, and decreased depression (Blaszczynski et al., 1991; Russo et al., 1984). It may be that controlled gambling or abstinence, in conjunction with length of time in GA, may show associations with specific improvements in depression and coping in pathological gamblers. Further research to investigate the pattern of changes in gambling, depression, and coping styles over the course of participation in GA is presently being conducted by Watson and Frisch (in progress).

In addition to longitudinal studies of pathological gamblers in GA, future research could profitably examine the extent of depression and coping skills deficits in pathological gamblers outside of treatment settings. As the results of the present study are characteristic of only a subset of gamblers in GA treatment, such research would provide information ultimately important for testing the generality of need-state and coping

theories of pathological gambling. Research on depression and coping in pathological gamblers in nontreatment settings could be conducted by recruiting subjects in racetrack, bingo, casino, and/or other gambling settings.

Applied implications.

The results of the present study provide important information concerning the psychometric properties and clinical utility of the SIPI and PF-SOC measures (Huba et al., 1982; Heppner et al., 1995). Findings that scales such as guilty-dysphoric daydreaming, poor attentional control, and reactive, reflective, and suppressive coping correlate in theoretically meaningful ways with one another and with depression, supports the convergent and discriminant validity of these scales.

Despite important evidence for the construct validity of the scales of the SIPI, however, the lack of expected between-group differences on the variables of guilty-dysphoric daydreaming, poor attentional control, and positive-constructive daydreaming raises questions about the clinical utility of this measure, at least with samples of pathological gamblers. Although the possibility of low power associated with small sample size and modest underlying effect sizes prevents any final conclusions about the clinical utility of the SIPI, further research should be conducted to establish the extent to which this measure can meaningfully discriminate between different clinical groups and controls.

The relative paucity of research on the subject of pathological gambling has led to a situation in which clinicians have frequently had little to guide them in their interactions

with clients with pathological gambling problems. The findings of the present study suggest a number of important strategies for the treatment of pathological gamblers. First, the finding that depression presents a real problem for many pathological gamblers reinforces the notion that pathological gambling is a serious disorder requiring treatment. Further, suggestions that pathological gamblers may exhibit developmental tendencies toward dysphoria (McCormick, 1987; Jacobs, 1986, 1987; Taber & Boston, 1987) and that negative inner states increase the risk of relapse and exacerbated gambling (Cummings et al., 1980) suggests that the depression experienced by these individuals should be a focus of assessment and treatment.

Clinicians should be careful to thoroughly assess the extent of clients' depression, including suicide risk, particularly since the wide range of presenting problems associated with pathological gambling (substance abuse, disturbed family relationships, legal problems), may mask and distract attention away from affective disorders (McCormick et al., 1984). With regard to therapy, experiential therapy (Greenberg, Rice, & Elliot, 1994; Watson & Greenberg, in press) may be useful in alleviating depression as well as helping clients to become more reflective and less reactive in stressful situations. For clients for whom gambling represents a way to escape depression related to a negative self-image (e.g., Custer & Milt, 1985; Jacobs, 1987), cognitive therapy aimed at restructuring a negative self-image and unrealistic self-expectations may be useful in alleviating both depression and associated problematic gambling behaviours. In general, with clients for whom gambling serves as a means of modifying mood,

therapy can serve the important function of teaching gamblers skills to recognize mood variances and suggesting alternative ways of handling these mood changes (McCormick et al., 1984).

Present findings that pathological gamblers report lower levels of reflective coping and higher levels of suppressive and reactive coping compared with controls suggest that the treatment of pathological gamblers may profitably include coping skills enhancement and relapse prevention techniques of the kind currently used to control alcoholism, narcotics addictions, smoking, and compulsive overeating (e.g., Marlatt & Gordon, 1985). Following this model, clinicians initiating treatment should begin by conducting a thorough assessment of gamblers' existing skills for coping with stressful situations (Marlatt, 1985). The range of stressful situations which precipitate pathological gambling should also be assessed (Marlatt & Gordon, 1985; McCormick, 1994). Following assessment of coping skills and relapse precipitants, treatment can involve training in general skills for coping with stress, including relaxation training, instruction in problem-solving strategies (D'Zurilla & Goldfried, 1971), exercise, assertiveness training, conflict resolution skills, and lifestyle modification (Marlatt & Gordon, 1985). The clinician should also focus on teaching clients to cope with specific situations previously associated with pathological gambling. Specific skills for handling these discrete, stressful situations may include recitation of specific coping statements, recitation of statements challenging irrational views about the benefits of gambling, seeking emotional support, or strategies of stimulus control (Ladouceur, Boisvert, & Dumont, 1995; Marlatt & Gordon, 1985;

McCormick, 1994). Regardless of the specific coping skills developed, an emphasis in therapy should be to replace avoidant and reactive coping behaviours, including gambling, with more reflective and effective methods for dealing with stress.

Preliminary evaluations of the effectiveness of cognitive-behavioural and relapse-prevention approaches exist in the form of descriptive case studies and single-case experimental designs (Bujold, Ladouceur, Sylvain, & Boisvert, 1994; Ladouceur, Boisvert, & Dumont, 1995; Sharpe & TARRIER, 1993). While these reports indicate some preliminary success, the significant dearth of studies on the treatment of pathological gambling in general underlines the important need for future research evaluating the effectiveness of cognitive-behavioural, relapse prevention, and other approaches of the kind suggested here.

General Limitations of the Study

Internal validity.

The use of self-report measures in the present study suggests that the conclusions described above should be seen as suggestive, as subjects' overt behaviour may not correspond completely with their self-reported activities. Findings that the results of the present study correspond with, support, and extend clinical hypotheses concerning the personality traits of pathological gamblers, however, support the validity of the results and the suggestions for research and therapy following from them.

External validity and generalizability.

In examining the results of the present study, it is

necessary to bear in mind that the participation of only a subset of GA members was elicited. Participation was elicited from only those subjects experiencing problems with gambling within the past year, and of the members of this subgroup who agreed to participate, only 49% returned data to be analyzed. As a result, the findings of the present study do not generalize to all GA members, but reflect the characteristics of a subset of pathological gamblers in GA. One may speculate, for example, that subjects responding to the postal survey may have responded for the reason that they were depressed while others, not exhibiting high levels of depressive symptomatology, were less motivated to participate. With regard to the broader implications of the study, one can only state with confidence that a significant subsection of GA members may exhibit elevated depression and deficits in coping. As mentioned previously, research into the mood and coping characteristics of gamblers with other backgrounds, such as pathological gamblers in nontreatment settings, longer-term members of GA, and those abstinent from gambling for longer periods of time, would be useful in extending theoretical knowledge and treatment in the area of pathological gambling.

In addition to limitations related to generalizability of results, a problem encountered during data collection involved findings of unexpected discrepancies between some (approximately five) control subjects' reported demographic data and the initial data they had provided one year earlier in a telephone survey of gambling in Windsor (Govoni, 1995). For the most part, such discrepancies involved differences in levels of reported income,

and as such may be reflective of changes in economic climate, life changes such as divorce or job change, or differences in response set due to mode of data collection. With regard to the last possibility, it may be possible that differences in the proximity of the researcher (ie., directly asking about income during a telephone survey vs. asking subjects to respond to an anonymous questionnaire) influenced subjects' reports of their income. It may also be possible that the greater amount of time associated with answering questions on a self-report questionnaire enabled subjects to assess their exact level of income more accurately than had been the case for the brief telephone survey. Regardless of the reasons for these discrepancies, the lack of consistency in information elicited from some subjects at different times raises questions about the general validity of controls' responses. For the purposes of the present study, validity concerns were reduced by including only individuals whose demographic information matched earlier reports. Further study, however, may be necessary to examine the extent of and reasons for reporting discrepancies among the larger group of subjects contacted for telephone gambling surveys.

Summary and Suggestions for Future Directions

The present study compared 29 pathological gamblers in GA and 29 matched non-pathologically gambling controls on three conceptually interrelated constructs with important theoretical, research, and treatment implications. Gamblers and controls were compared on intensity of depression, styles of private inner experience, and coping styles. Pathological gamblers reported

significantly more depression than controls, but did not demonstrate different styles of private inner experience compared to matched peers. Pathological gamblers reported less reflective coping, but more suppressive and reactive coping compared with controls. These results suggest that depression be a focus in the assessment and treatment of pathological gamblers, that research investigate the possible role of chronic depressive need states in motivating gambling, and that the efficacy of coping enhancement and relapse prevention approaches be investigated in the treatment of pathological gambling.

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APPENDIX A

Informed Consent for Participation

We would like you to participate in a research study titled "Depression, Styles of Private Inner Experience, and Coping: A Comparison of Pathological Gamblers in Gamblers Anonymous with Nonpathologically Gambling Controls". This study is being conducted by Ms. Heather Getty as part of M.A. requirements in Psychology at the University of Windsor. The purpose of the study is to gain a better understanding of the levels of depression, quality of private thought patterns, and types of coping behaviours used by individuals with pathological gambling problems compared with individuals without gambling problems.

If you decide to participate in the study, your involvement will take **no more than 20 minutes** of your time. You will be asked to fill out a series of questionnaires that will ask about gambling and gambling-related problems, symptoms of depression, and the types of coping behaviours used in stressful situations. There are no foreseeable risks to you as a result of your participation.

Your participation is completely voluntary and you will be free to refuse or stop at any time without penalty. Your name will not appear on any of the questionnaires, and your identity will not be revealed in any results of the study.

Do you have any questions? If you have any questions later, please feel free to contact us.

Heather Getty, B.A. (Hons.)
Psychology Department
University of Windsor
(519)256-2479 or 253-4232 (#2218)

G. R. Frisch, Ph.D., C.Psych.
Psychology Department
University of Windsor
(519)253-4232 (#7012)

This study has been cleared by the Ethics Committee of the Psychology Department of the University of Windsor and any complaints about the study may be directed to the Committee Head, Dr. S. Voelker, Psychology Department, University of Windsor ((519)253-4232 Ext. 2218).

RETURN OF THE COMPLETED QUESTIONNAIRES WILL BE CONSIDERED CONSENT FOR PARTICIPATION IN THIS STUDY.

* A written summary of the findings will be made available upon request to interested participants after the completion of the study. All requests for information should be made to Heather Getty, B.A. (Hons.) at the telephone numbers listed above.

APPENDIX B

Verbal Instructions for GA Subjects

My name is Heather Getty. I am a graduate student in Clinical Psychology at the University of Windsor. Researchers at the University of Windsor are currently seeking volunteers for a study that looks at the relationship between gambling, symptoms of depression and anxiety, and also some of the coping behaviours that people use in everyday stressful situations. The purpose of the research is to help psychologists and other professionals to better understand and treat persons with gambling problems. The study consists of two parts.

The first part of the study requires volunteers who have experienced difficulty with gambling during the past year. "Having difficulty with gambling" might mean that you have been preoccupied with thoughts of gambling, have been unable to stop or cut down on gambling, and have had family, legal, or job problems as a result of gambling. If you would like to volunteer in the study, I'll give you a package of brief questionnaires that ask about gambling habits in the past year, some symptoms of depression and anxiety, and coping. You can take the package home and complete the questionnaires in your spare time. The questions are multiple choice and take about twenty to twenty-five minutes to fill out. You won't be asked to put your name on anything, so your answers will be anonymous. You can then seal the envelope and simply drop it in the mail. If you have any questions at any time, some telephone numbers are included that you can call, and a smaller, stamped envelope is provided for you to send back a request for written results of the study.

The second part of the study is just an extension of what I just described to you. It involves completing exactly the same questionnaires, but it is a longitudinal study, which means the researchers want to look at changes in people over time. This part of the study requires volunteers who have been attending group for two weeks or less, and who are willing to fill out the questionnaires now and on three different occasions over the next year. Your answers will be confidential; a consent form and separate envelope is provided for you to send in your first name and address so that the researchers can send you the questionnaires at later dates.

Remember, if you have questions later, you can contact me at the numbers provided in your package. You can also send back a request form for feedback about the results of the studies when they have been completed.

APPENDIX C

Verbal Instructions for Control Subjects

My name is Heather Getty. I'm a graduate student in Clinical Psychology at the University of Windsor, and I'm currently doing some research on problem gambling. I understand that you previously took part in a couple of telephone surveys with the University that were about gambling and that at that time, you indicated that you might be interested in taking part in future studies on gambling. Is this the case? Perhaps I could describe the research that I'm doing for my Master's Thesis and you could let me know if you would like to be a volunteer.

The research I'm doing looks at the relationship between problem gambling and some of the symptoms of depression, and also some of the coping behaviours people use in everyday stressful situations. The purpose of the research is to help psychologists and other professionals to better understand and treat persons with gambling problems. I'm not conducting a telephone survey, so I won't be asking you lists of questions over the phone. Instead, I'm sending out packages that contain a few brief questionnaires that ask questions about gambling, about some of the symptoms of depression, and about coping. The questions are multiple choice and would take ten or fifteen minutes to complete in your spare time. After you've filled them out, you'd simply drop the package into the mail at your earliest convenience and it would be returned to me at the University.

You won't be asked to put your name on any of the questionnaires, so your answers will be anonymous. I can also send you a written summary of the results of the study when they are available.

APPENDIX D

Demographic Information Sheet

Now I would like to ask you some questions about yourself.

Gender? M ___ F ___

What is your age? _____

What is the highest grade or year of schooling you have completed?
(check one)

No schooling	_____
First to 7th grade	_____
8th grade	_____
Some high school	_____
High school graduate	_____
Some community college	_____
Community college graduate	_____
Some university	_____
University graduate	_____
Graduate degree	_____

Which of the following ranges best describes your total household income, before taxes?

Less than \$20,000	_____
\$20,000 - \$29,999	_____
\$30,000 - \$39,999	_____
\$40,000 - \$49,999	_____
\$50,000 - \$59,999	_____
\$60,000 - \$69,999	_____
\$70,000 - \$79,999	_____
\$80,000 - \$99,999	_____
\$100,000 or more	_____

APPENDIX E

Selected Paraphrased Items From The Short Imaginal Processes Inventory (SIPI; Huba et al., 1982)

Positive-Constructive Daydreaming	Scale in IPI
*Daydreaming never solves problems.	Acceptance of Daydreaming
-Original ideas from daydream.	Acceptance of Daydreaming
-Daydreams leave warm feeling.	Positive Reactions in Daydreaming
-Daydreams stimulating.	Positive Reactions in Daydreaming
-Answer to problem in daydream.	Problem Solving Daydreams
-Daydreams offer clues to situations I face.	Problem Solving Daydreams
-Daydream about the future.	Future Orientation in Daydreaming
*Seldom think about future.	Future Orientation in Daydreaming
*Do not "see" objects in a daydream.	Visual Imagery
-Sounds in daydreams distinct.	Auditory Imagery
Guilty-Dysphoric Daydreaming	
-Never panic after a daydream.	Frightened Reactions to Daydreaming
-Daydreams contain depressing events	Frightened Reactions to Daydreaming
-In my daydreams, see self as an expert.	Achievement-Oriented Daydreams
-Imagine myself in an organization for successful individuals.	Achievement-Oriented Daydreams
-In daydreams, fear new responsibilities	Fear of Failure Daydreams
-Imagine myself failing loved ones.	Fear of Failure Daydreams
-In daydreams, show anger towards enemies.	Hostile Daydreams
-In daydreams become angry.	Hostile Daydreams
-In fantasies, friend discovers I lied.	Guilt Daydreams
-In daydreams I feel guilty for escaping punishment.	Guilt Daydreams
Poor Attentional Control	
-Thoughts unrelated to my work	Mindwandering

always creep in.	
-Difficulty maintaining concentration.	Mindwandering
*Thoughts seldom drift from subject.	Mindwandering
-Easily lose interest.	Boredom Susceptibility
-Tend to be easily bored.	Boredom Susceptibility
*Can work at something for long time.	Boredom Susceptibility
-When faced with a tedious job, I notice other things that I could do.	Distractibility
*Not easily distracted.	Distractibility
*Concentration not impaired by someone talking nearby.	Distractibility

*Reverse keyed item.

Appendix F

Selected Items From the Problem-Focused Style of Coping Inventory
(PF-SOC; Heppner et. al., 1995)**Reflective Style**

- I think about ways that I solved problems in the past. (C)
- I think ahead, which enables me to anticipate and prepare for problems before they arise. (C)
- I have alternate plans for solving my problems in case my first attempt does not work. (C)

Suppressive Style

- I don't sustain my activities long enough to really solve my problems. (B)
- I feel so frustrated that I just give up doing any work on my problems at all. (A)
- I have a difficult time concentrating on my problems (ie., my mind wanders). (C)

Reactive Style

- I get preoccupied thinking about my problems and overemphasize some parts of them. (C)
- I continue to feel uneasy about my problems, which tells me I need to do some more work. (A)
- I act too quickly, which makes my problems worse. (B)

(C) = cognitive coping item

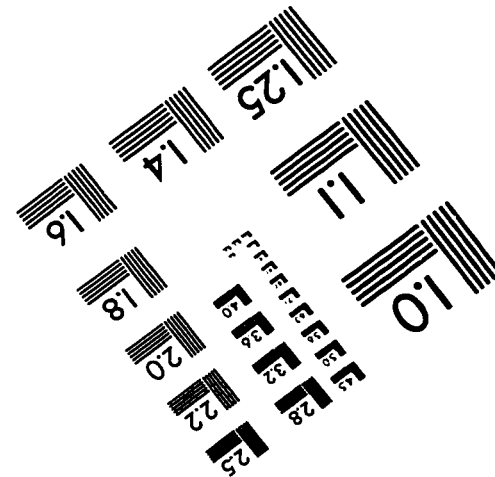
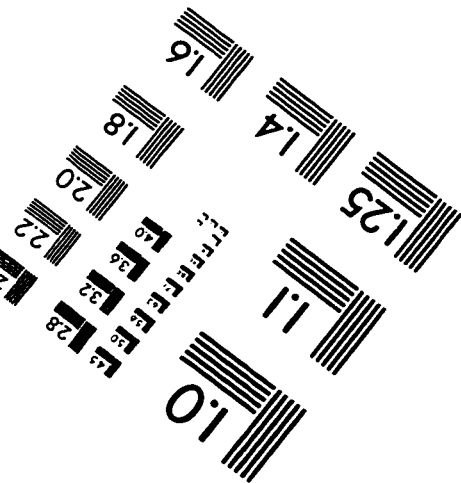
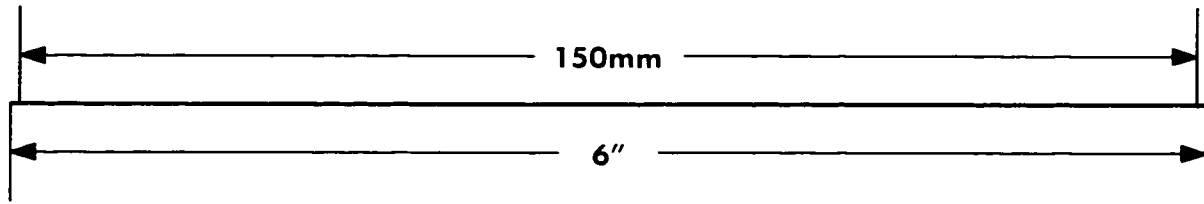
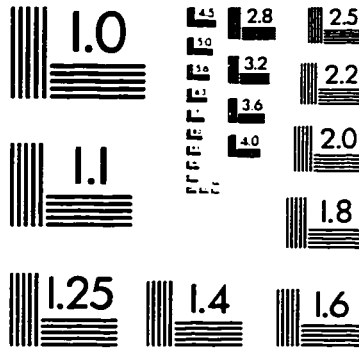
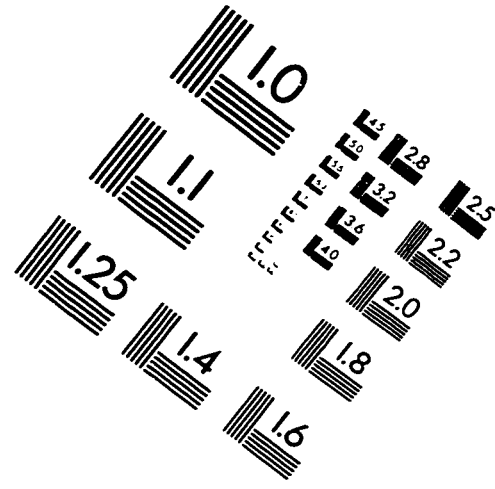
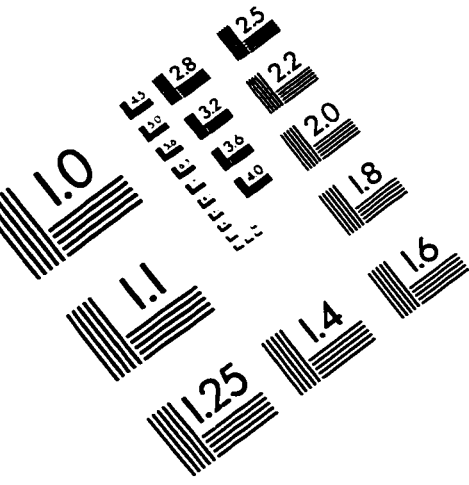
(A) = affective coping item

(B) = behavioural coping item

VITA AUCTORIS

Heather Getty was born in 1971 in Chatham, Ontario. She graduated from John McGregor Secondary School in 1990. From there she went on to the University of Windsor where she obtained a Honours B.A. in Psychology in 1994. She is currently a candidate for the Master's degree in Clinical Psychology at the University of Windsor and hopes to graduate in Fall 1996.

IMAGE EVALUATION TEST TARGET (QA-3)



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