

## Chapter 10

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# A Pathways Approach to Treating Youth Gamblers

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Pathological gambling among youth is a growing social concern. Studies suggest that 24–40% of adolescents gamble weekly, 10–14% are at risk for gambling problems, and 2–9% meet diagnostic criteria for pathological gambling (for extensive reviews of youth gambling see Griffiths, 1995; Jacobs, 2000, in this volume; National Research Council, 1999; Shaffer & Hall, 1996). The mean prevalence rate for adolescent pathological gambling has been reported to be 5%—three times the 1.5% average for adults (National Research Council, 1999).

Empirical findings suggest that gambling often begins at home, with youth modeling the betting behavior of their parents (Gambino, Fitzgerald, Shaffer, Renner & Courtage, 1993; Jacobs, 2000; Ladouceur & Mireault, 1988; Wood & Griffiths, 1998). In addition, early involvement in gambling has been shown to be highly predictive of gambling problems during adulthood (Griffiths, 1995; Jacobs, 2000). Both youth and adult problem and pathological gamblers typically experience significant adverse personal, familial, financial, professional, and legal consequences (National Research Council, 1999).

The psychological literature is replete with studies exploring risk factors that seem to predispose youth to gambling problems. Those factors include earlier age of onset, male gender, parental gambling, predisposition toward intensity seeking and impulsivity, depression and/or anxiety, comorbid substance abuse, antisocial behavior, low self-esteem, and

lack of social support (Gupta & Derevensky, 1998a; Stinchfield, in this volume; Vitaro, Arseneault & Tremblay, 1997; Vitaro, Ladouceur & Bujold, 1996; Wynne, Smith, & Jacobs, 1996). However, to date, no empirically validated theoretical model of pathological gambling has effectively incorporated the complex array of biological, psychological, and ecological factors into an etiological framework for youth gamblers (Blaszczynski, 1999; Brown, 1988; Ferris, Wynne, & Single, 1998; Shaffer & Gambino, 1989).

The Pathways Model (Blaszczynski, 1998; Blaszczynski & Nower, 2002) provides such a framework, suggesting that a multifaceted constellation of risk and protective factors differentially influences youth who may otherwise display similar phenomenological features to follow different and distinct pathways toward a gambling disorder. Within this chapter, we propose that the Pathways Model, originally applied to adult gamblers, can serve as an effective template for the development of early intervention, prevention, and targeted clinical management strategies for adolescent and young adult gamblers.

### **Theoretical Framework of the Pathways Model**

Historically, there has been little consensus regarding classification of problem and pathological gamblers. In the youth gambling literature, classification schemes have included symptom count alone (Gupta & Derevensky, 1998b), frequency of gambling plus symptom count (Vitaro et al., 1997), self-report of gambling-related problems (Stinchfield, Cassuto, Winters, & Latimer, 1997), frequency of gambling plus money wagered (Vitaro et al., 1996) and multifactorial assessments (Govoni, Rucpich, & Frisch, 1996). Some researchers have suggested that the presence of harm rather than symptom count should define the gambling problem (Ferris et al., 1998; Victorian Casino and Gaming Authority, 1997).

In many cases, classification systems result from subjective value judgments, increasing Type I error (i.e., false positives), and expanding the pool of problem gamblers by misclassifying those for whom gambling is ego-syntonic with those for whom gambling is ego-dystonic (Blaszczynski & Nower, 2002; Walker, 1998). In the former group, gamblers report no impaired control though they experience negative interpersonal consequences for choosing to gamble rather than attending to family, monetary, employment, and other obligations. The latter group experiences negative consequences as well as a subjective sense of impaired control, defined by repeated unsuccessful attempts to control the gambling urge despite a reported genuine desire to cease gambling. Merging these two distinct types of gamblers into a single, heterogeneous group fosters confusion and contradiction in the

research and clinical treatment literature (Blaszczynski & Nower, 2002). In fact, there is little agreement on typologies beyond the idea that there are at least two subgroups of gamblers; those chronically under stimulated, and the other, overstimulated (Jacobs, 1986; Blaszczynski, Winter, & McConaghy, 1986).

While accepted theories of pathological gambling postulate different explanations for impaired control, they each maintain that one model and set of theoretically-driven treatment applies to all pathological gamblers (Blaszczynski & Nower, 2002). However, no theory has successfully accounted for all permutations of problem gambling behavior. For example, learning theories, based on behavioral schedules of reinforcement, fail to account for the majority of gamblers who continue to exhibit control while cognitive theories fail to establish that distorted and irrational cognition are causal factors rather than secondary effects of cognitive dissonance (Blaszczynski & Nower, 2002).

Conceptually, pathological gambling is perceived either as an endpoint along a continuum of gambling involvement or as a categorical disorder. The dimensional view holds that pathological gamblers are qualitatively similar to social gamblers except for the amount of time and money spent gambling, identified by a variable cut-point (Walker, 1992). In contrast, a categorical perspective maintains that pathological gamblers are decidedly distinct from their non-impaired counterparts (Bergler, 1958; Rosenthal, 1992).

Increasingly, converging lines of research have begun identifying affective (Beaudoin & Cox, 1999; Blaszczynski, 1988; Getty, Watson, & Frisch, 2000), biochemical (Carrasco, Saiz-Ruiz, Hollander, Cesar, & Lopez-Ibor, 1994; Moreno, Saiz-Ruiz, & Lopez-Ibor, 1991) and genetic (Blum et al., 2000; Comings, Rosenthal, Lesieur, & Rugle, 1996) subtypes of gamblers, supporting a categorical approach to classification and tentatively linking receptor genes and neurotransmitter dysregulation to reward deficiency, arousal, impulsivity, and pathological gambling. Preliminary evidence supports the hypothesis that serotonin (mood regulation), norepinephrine (mediating arousal) and dopamine (reward regulation) may all play a role in impulsivity, mood disorders, and impaired control (Bergh, Eklund, Sodersten, & Nordin, 1997; De Caria et al., 1996; Lopez-Ibor, 1988; Moreno, et al., 1991; Roy, de Jong & Linnoila, 1989). In addition, genetic research suggests that possession of the dopamine D2A1 allele receptor gene results in deficits in the dopamine reward pathway, leading affected individuals to engage in pleasure-generating activities, thereby placing them at high risk for multiple addictive, impulsive, and compulsive behaviors including substance abuse, binge eating, sex addiction, and pathological gambling (Blum et al., 2000; Comings et al., 1996). Thus, in some sub-groups of problem and pathological gamblers, detrimental pleasure-seeking may be biologically

prescribed, though the choice of behavior differs by individual (see Blaszczynski & Nower, 2002 for a discussion of biological correlates).

The Pathways Model (Blaszczynski, 1998; Blaszczynski & Nower, 2002) proposes that there are at least three subgroups of problem and pathological gamblers with distinct clinical features and etiological processes. *Behaviorally-conditioned* problem gamblers, Pathway 1, lack psychiatric pathology but fall prey to a highly addictive schedule of behavioral reinforcement. *Emotionally vulnerable* problem gamblers, Pathway 2, manifest both a biological and psychological vulnerability to pathology, characterized by high levels of depression and/or anxiety and a history of poor social support, low self-esteem, and emotional neglect by caregivers. Pathway 3, *antisocial impulsivist* problem gamblers, possess vulnerabilities similar to those in Pathway 2 but they are decidedly impulsive, antisocial, and often dually addicted.

### **Common Processes: Access, Availability, Acceptability, Conditioning & Cognitions**

The Pathways Model asserts that each of the three major pathways leading to pathological gambling share certain common processes and symptomatic features. However, each pathway is distinguished by empirically testable differences in vulnerability factors, demographic features, and etiological processes. It is suggested that the biological, psychosocial, and environmental factors described in the literature can be incorporated effectively into a theoretical framework to help explain youth gambling behavior.

All three pathways share common ecological factors, including ease of access and social acceptability of gambling. Epidemiological surveys indicate that access to gambling facilities is associated with a higher incidence of pathological gambling (Abbott & Volberg, 1996; Grun & McKeigue, 2000; Volberg, 1996). Retrospective studies with both adults and youth have consistently reported that problem gamblers characteristically begin gambling before the age of 10 (Dell, Ruzicka, & Palisi, 1981; Griffiths, 1990; Gupta & Derevensky, 1997, 1998a). According to Jacobs (2000), the earliest gambling experiences among children occur in situations where there are opportunities to wager even small amounts of money, and the home environment facilitates and supports gambling. In a survey of children age 9–14, Gupta and Derevensky (1997) found that 81% of children reported gambling with family members, including parents (40%), siblings (53%), and other relatives (46%). Similarly, in examining a sample of 1,320 children between the ages of 8 to 13, Ladouceur, Dubé, and Bujold (1994), reported that 40% of the children gambled once a week or more, and that a majority of those gambled

with parents on lotteries (59%), cards (53%) and sports (48%). In addition, Wood and Griffiths (1998) reported that parents of youth age 11—15 received lottery tickets (71%) and scratchcards (51%) purchased for them by their parents. Children of problem gamblers have also been found to be at increased risk of developing a gambling problem themselves (Jacobs et al., 1989).

Exposure to gambling at an early age is facilitated by the lack of responsible public policies and legislation that promotes and encourages gambling as a socially acceptable activity. In general, adults indicate that youth gambling, particularly the purchase of lottery tickets, is a harmless and condoned activity (Gupta & Derevensky, 1997; Winters, Stinchfield, & Kim, 1995). In most venues, public policy and regulatory legislation create and foster an environment in which gambling is socially accepted, encouraged, and actively promoted. Derevensky, Gupta, and Della Cioppa (1996) found that less than 1/3 of children aged 9—14 reported they were fearful of being caught gambling, and the incidence tended to decline with age. Similarly, Gupta and Derevensky (1997) reported that 44% of fourth graders (age 10–11) feared being caught gambling, but that by grade eight (age 13–14), that percentage had declined to only 10%. Wynne et al. (1996) cited four factors that may account for an inordinately high prevalence rate of problem youth gambling: (a) multiplicity of diverse gambling venues, (b) vendors who fail to require proof of age and enforce existing statutes, (c) advertising that tends to encourage gambling and minimize potential harmful effects, and (d) adult attitudes that minimize the dangers of youth gambling. Thus, access, availability, and acceptability function to foster youth gambling efforts.

After initial gambling, adolescents become influenced by the highly addictive schedules of behavioral reinforcement provided by gambling through classical and operant conditioning and thereby initiated into an increasingly frequent and habitual pattern of gambling (see Blaszczynski & Nower, 2002, for a discussion of the role of conditioning). A neo-Pavlovian perspective suggests that gambling causes repeated cortical excitation, creating a “neuronal model” of the habitual behavior, which is subsequently stimulated by gambling-related cues. In response to those cues, youth experience a seemingly uncontrollable drive to engage in the habitual behavior, and attempts at control are met with aversive states of arousal or compulsion. Similarly, intermittent wins delivered on a variable ratio reinforcement schedule produce states of arousal, which are classically conditioned to stimuli associated with the gambling environment. The excitement of gambling may also produce negative reinforcement by reducing prior-existing aversive anxiety states and depression. Such reinforcement fosters a habitual pattern of continued gambling.

Frequent gambling also produces biased and illogical cognitive schemas, suggesting that personal control or skill, superstitious beliefs, or erroneous

evaluations about probabilities and odds will influence the gambling outcome (see Griffiths, 1995; Ladouceur & Walker, 1996 for a comprehensive review of these processes). These distorted cognitive belief structures increase in potency and pervasiveness with concomitant increasing levels of gambling involvement (Griffiths, 1990, 1995). Ultimately, gamblers feel pressured to chase losses in the face of mounting debts (Lesieur, 1984). At this point, individuals typically manifest clear diagnostic indicators of gambling pathology, which is commonly misconstrued to imply that all pathological gamblers belong to a homogenous group. The Pathways Model refutes this assumption by suggesting that gamblers follow three clinically distinct routes to developing pathology.

### ***Pathway 1: Behaviorally-Conditioned Youth Problem Gamblers***

Gamblers following Pathway 1 develop gambling problems as a result of conditioning rather than impaired control (Blaszczynski, 1998; Blaszczynski & Nower, 2002). They fluctuate between regular/heavy and excessive gambling resulting from habituation, distorted perceptions about winning, and/or a series of bad judgements or decisions. Despite intermittently meeting formal criteria for pathological gambling, they are characterized by an absence of premorbid psychopathology. As depicted in Figure 1, members of this subgroup may exhibit preoccupation with gambling and chase gambling losses. In addition, they may abuse alcohol and report high levels of depression and anxiety but only in response to the financial burden imposed by their behaviour. These symptoms are the consequence not the cause of their gambling excesses.

### ***Pathway 2: Emotionally-Vulnerable Youth Problem Gamblers***

Unlike Pathway 1 gamblers, these youth present with premorbid depression and/or anxiety, low self-esteem, poor coping and problem solving skills, a history of familial neglect or abuse, they lack social support, and exhibit other adverse developmental behaviors. The cumulative effect of these factors produces an “emotionally vulnerable gambler” who gambles as a way to decrease aversive affective states or meet specific psychological needs (Blaszczynski & Nower, 2002).

Support for the Pathway 2 gambler comes from a variety of sources. Several studies have implicated a family history of pathological gambling as a significant risk factor for youth (Jacobs, 1988; Gambino et al., 1993; Griffiths, 1995; Lesieur & Rothschild, 1989; Volberg, 1993; Wood & Griffiths, 1998). Children of problem gamblers report pervasive feelings of loss, existential feelings of emotional abandonment, and physical deprivation and

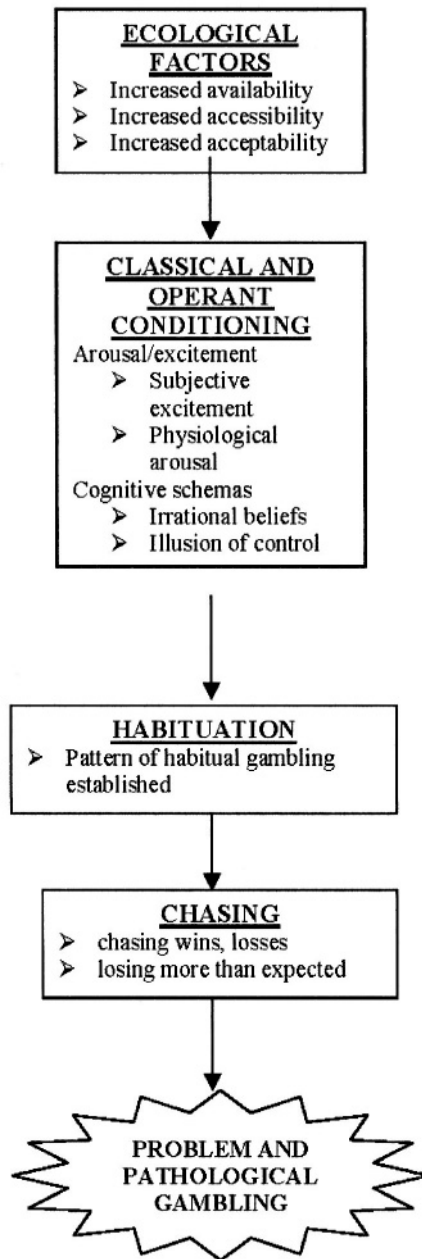


Figure 1. Integrated Pathways Model—Pathway 1

All figures adapted from Blaszczynski & Nower (2002) and reprinted by permission.

neglect due in part to the loss of the gambling parent (Darbyshire, Oster, & Carrig, 2001). In addition, studies have found that children of problem gamblers are significantly more likely to develop gambling problems themselves (Gupta & Derevensky, 1998b). In one study, youth with parents identified as problem gamblers were three times more likely to be problem gamblers; the risk increased 12-fold when both parents and grandparents were problem gamblers (Gambino et al., 1993).

According to Jacobs (1986), losses sustained as a result of a gambling parent and other adverse significant life events interact with personality variables and innately abnormal physiological states of arousal to lead to problem gambling. In his *General Theory of Addictions*, Jacobs (1986) proposes that pathological gamblers possess two interrelated sets of predisposing factors: an abnormal physiological resting states of hyper (anxiety) or hypo-arousal (depression), and a history of negative childhood experiences that result in feelings of inadequacy, low self-esteem, and low self-efficacy. These factors foster a need for wish-fulfillment and escape that lead the youth to seek chance encounters with substances or behaviors that promote dissociation and a feeling of being "alive" or "normal." Gambling maintains this fantasy, transforming anxiety into excitement and depression into relaxation and a sense of overall well-being.

Gupta and Derevensky (1998a) empirically tested Jacobs' theory with 817 high school students. Their study employed multivariate statistics and structural equation modeling to explore each model construct; depression and arousal (physiological resting state), self-worth, apprehension and childhood happiness (psychological distress), dissociation (need to escape), and frequency and severity of drug, alcohol and cigarette use as well as gambling (comorbid addictive behaviors). As predicted, adolescent problem and pathological gamblers exhibited higher levels of anxiety and depression, escape through dissociation, and cigarette, drug, and alcohol use than their peers. Dissociation proved a powerful predictor for both males and females, however, male problem gamblers were further distinguished by excitability (overactivity), and females, by depressed mood and use of stimulants.

The youth gambling literature offers much support for this sub-group of gamblers, which occupies an intermediary position in severity among the pathways. Several studies have noted that youth who gamble problematically report lower self-esteem (Gupta & Derevensky, 1998a; Peacock, Day, & Peacock, 1999), increased sexual activity (Stinchfield, 2000), higher rates of depression and anxiety (Gupta & Derevensky, 1998a; Stinchfield & Winters, 1998), a greater need to escape through dissociation (Jacobs, 1993; Kuley & Jacobs, 1988), poor coping skills (Nower, Gupta, & Derevensky, 2000), a lack of social support (Wynne et al., 1996), heightened risk of suicidal ideation and/or attempts (Gupta & Derevensky, 1998b; Stinchfield & Winters, 1998),



and increased tobacco, drug and alcohol use (Volberg, 1993; Wynne et al., 1996). Because of their negative developmental history and poor coping skills, Pathway 2 gamblers are often too fragile to maintain sufficient control over their behavior to engage in controlled gambling.

Figure 2 illustrates the essential differences between the first two pathways. Pathway 1 gamblers initially gamble for entertainment or socialization, facilitated by access and availability. In contrast, Pathway 2 gamblers are more emotionally vulnerable as a result of psychosocial and biological factors, and gambling serves as a method of escape from aversive affective states. Once initiated, a habitual pattern of gambling fosters behavioral conditioning and dependence in both pathways. However, Pathway 2 gamblers are more resistant to change as a result of premorbid psychological dysfunction.

### ***Pathway 3: Antisocial Impulsivist Youth Problem Gamblers***

Youth in Pathway 3 are replete with psychopathology that is often evident from childhood and suggestive of neurological or neurochemical dysfunction. Similar to Pathway 2 gamblers, this subgroup possesses both psychosocial and biologically-based vulnerabilities. However, this group is distinguished by features of impulsivity, antisocial personality disorder, and attention deficit, which results in multiple maladaptive behaviors that impair overall psychosocial functioning (Blaszczynski & Nower, 2002).

Clinically, impulsive youth engage in wide array of behavioral risk-taking and other misadventures wholly independent of their gambling. These youth often report a history of conduct disorder, sensation seeking, substance abuse, aggression, hyperactivity, and non-gambling related criminal behaviors. Impulsivity and disregard for consequences increases during times of stress and emotional upheaval. Pathway 3 gamblers exhibit difficulty maintaining healthy relationships; report emotional, physical or sexual abuse, or neglect by caregivers; and often endorse a family history of antisocial and alcohol problems. Gambling commences at an early age, rapidly escalates in intensity and severity, may occur in binge episodes, and is associated with early entry into gambling-related criminal behaviors. Dubbed the “anti-social impulsivist” subtype, these gamblers are typically non-motivated and non-compliant with treatment interventions (Blaszczynski, Steel, & McConaghy, 1997).

A number of studies have reported that problem youth gamblers demonstrate elevated levels of impulsivity (Vitaro, Arseneault, & Tremblay, 1997; 1999), sensation seeking (Gupta & Derevensky, 1998a; Powell, Hardoon, Derevensky, & Gupta, 1999), substance use (Ladouceur, Boudreault, Jacques, & Vitaro, 1999; Stinchfield et al., 1997) and antisocial behaviors (Vitaro

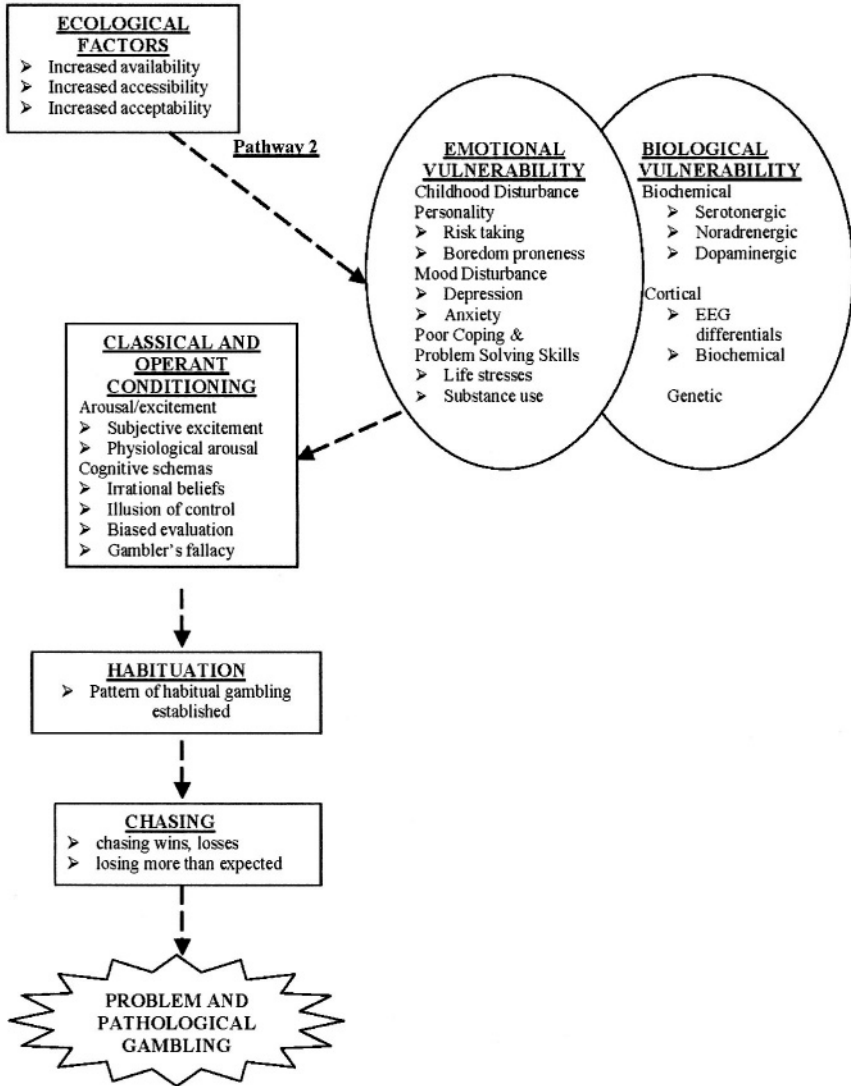


Figure 2. Integrated Pathways Model—Pathway 2

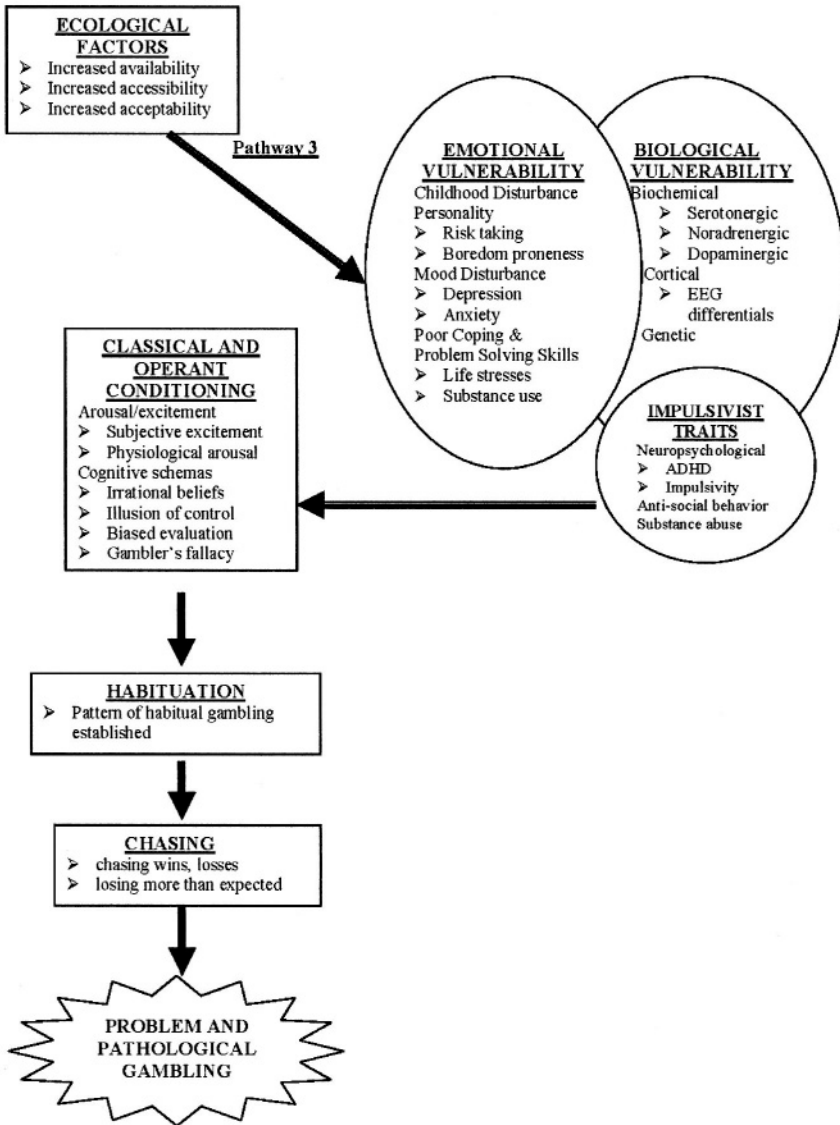


Figure 3. Integrated Pathways Model—Pathway 3

et al., 1996; Winters, Stinchfield, & Fulkerson, 1993). In a five-year longitudinal study of 154 boys, Vitaro and colleagues (1999) found that early impulsivity with a disregard for negative consequences was a significant predictor of problem gambling in late adolescence when controlling other personality factors such as aggressivity and anxiety. Similarly, other studies have noted that youth with serious gambling problems score high on the thrill and/or adventure seeking, intensity-seeking, and disinhibition scales of sensation seeking measures (Gupta & Derevensky, 1998a; Powell et al., 1999). This tendency toward risk taking would account for the finding that youth who often play video games, which provide a high degree of neurological stimulation, are more likely than low-frequency players to be problem gamblers (Gupta & Derevensky, 1996). These findings parallel similar results in the adult gambling literature, which has found consistent correlations between impulsivity, antisocial behaviors, sensation seeking, boredom proneness, substance abuse and gambling problems (Gonzalez-Ibanez, Jimenez, & Aymami, 1999; McCormick, 1994; Steel & Blaszczynski, 1996).

It is likely that many youth in this pathway exhibit features of the hyperactive sub-type of attention deficit hyperactivity disorder (ADHD), which is characterized by impulsivity beginning in childhood that is often found to be associated with antisocial personality behaviors. Youth gambling research has yet to systematically evaluate the relationship between ADHD and problem gambling. However, in a sample of adult pathological gamblers, Goldstein and his colleagues (Carlton et al., 1987; Goldstein, Manowitz, Nora, Swartzburg, & Carlton, 1985) found differential patterns of EEG activity and self-reported symptoms of childhood attention deficit disorder. Rugle and Melamed (1993) administered several neuropsychological measures of attention deficits to 33 male pathological gamblers and a similar number of normal controls. The authors concluded that gamblers differ from controls in exhibiting overactivity, destructibility, and difficulty inhibiting conflicting behaviors. In addition, attention deficit-related symptoms, reflecting impulsivity, are present in childhood and precede the onset of pathological gambling behavior. This biological vulnerability weakens behavioral control not only in the domain of gambling but also in other areas of life. This gives rise to the hypothesis that impulsivity is independent of gambling and functions as a good predictive factor for severity of involvement in at least a subgroup of gamblers (Blaszczynski & Nower, 2002).

In summary, Figure 4 illustrates the integrated pathways model. Gambling is initiated as a result of easy access and availability, proceeds through one of three distinct pathways, and ultimately converges at the level of classical and operant conditioning that fosters habitual gambling, chasing, and problem and pathological gambling behavior.

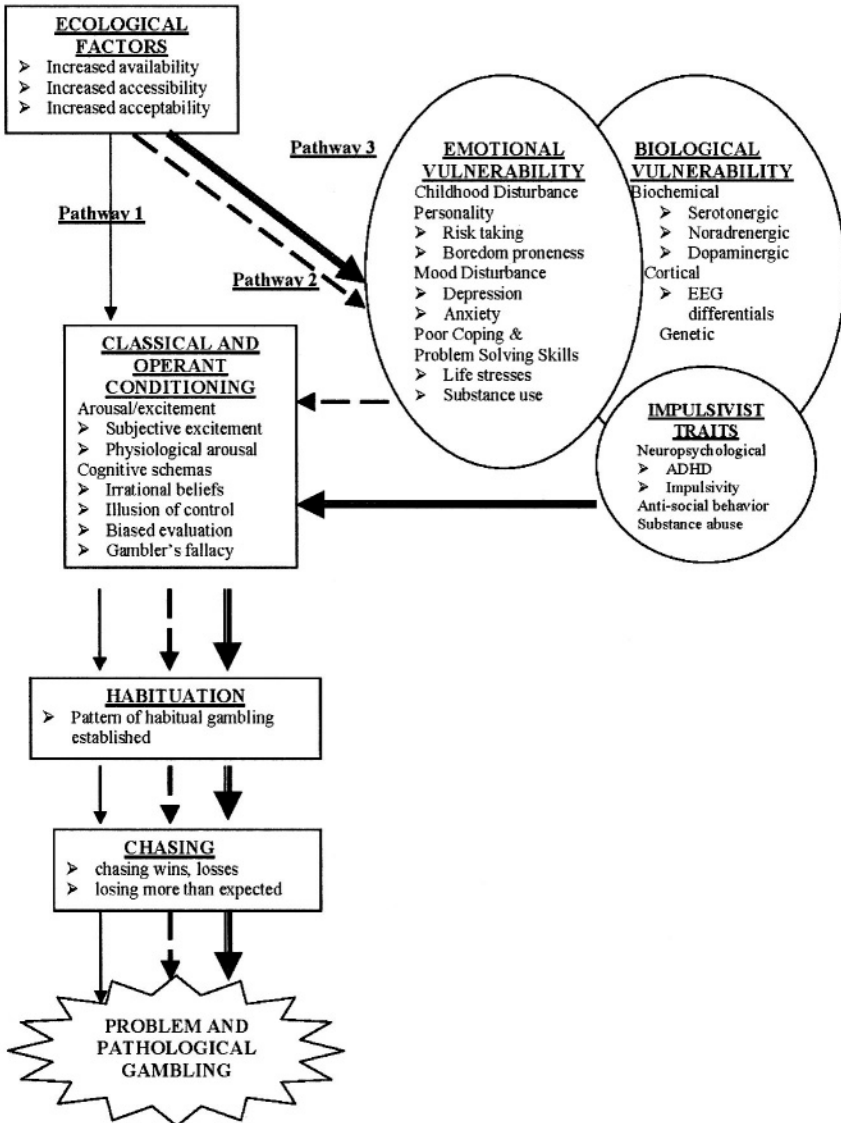


Figure 4. Integrated Pathways Model

## Identification and Treatment Implications

Clinicians would be well advised to employ a comprehensive assessment battery to identify and assign youth to one of the three pathways, and rate them on each continuum. Typically, the assessment should include a general gambling questionnaire, exploring demographic variables, familial gambling behavior, age of onset, frequency and types of gambling, gambling locations, gambling peers, wagers, and cognitive perceptions about gambling (e.g., the Gambling Questionnaire by Gupta and Derevensky, 1996). All evaluations should screen for suicidality and homicidality to ensure identification of youth in need of immediate psychiatric intervention. In addition, assessments should be tailored to individual client needs, including assessment of some or all of the following:

- Youth gambling problem severity [e.g., DSM-IV-MR (Fisher, 2000) or the SOGS-RA (Winters et al., 1993) in the absence of a gold standard instrument]
- Personality and self-perception [e.g., High School Personality Questionnaire (Cattell, Cattell, & Johns, 1984) and Self-Perception Profile for Children (Harter, 1985)]
- Depression [e.g., Reynolds Adolescent Depression Scale (Reynolds, 1987)]
- Impulsivity [e.g., the narrow impulsiveness subscale of the Eysenck Impulsivity Scale (Eysenck & Eysenck, 1977)]
- Sensation seeking [e.g., Sensation Seeking Scale (Zuckerman, 1994) or the Arnett Inventory of Sensation Seeking (Arnett, 1994)]
- Stress-coping [e.g., COPE (Carver, Scheier, & Weintraub, 1989) or Coping Inventory of Stressful Situations (CISS) (Endler & Parker, 1990)]
- Substance use and abuse [e.g., Personal Experience Screening Questionnaire (Winters, 1992)]

### *Pathway 1 Youth Gamblers*

Entry into this pathway may occur at any age, possibly due to family or peer involvement in gambling activities and socialization that encourages magical thinking regarding luck, chance, and superstition. This subgroup of youth report the least severe gambling and gambling-related problems of any of the three pathways, and manifest no significant symptoms of premorbid psychopathology, substance abuse, impulsivity, or disorganized behavior.

Identifying youth in Pathway 1 may be difficult, as they may constitute a rather small group of problem gamblers. In studies of youth gamblers to

date, much attention has been directed at identifying common risk factors including factors such as impulsivity and risk-taking. However, there have been no systematic investigations of youth who manifest no such pathology yet who meet diagnostic criteria, reporting preoccupation, chasing, and frequent gambling of large amounts of money with significant negative consequences. In the adult population, Pathway 1 gamblers are often seniors or “empty nesters” that enjoy relatively healthy lifestyles until life span milestones such as retirement or death/abandonment by a spouse left them lonely and in search of the fellowship and excitement satisfied by gambling. In youth, Pathway 1 gamblers are conspicuous by their absence of premorbid signs or symptoms. They may have intact, supportive families, get good grades, and excel in sports. However, peer or family influences introduce the Pathway 1 youth to the exciting and seemingly harmless form of entertainment, which initially provides an opportunity for excitement, skill-testing, peer bonding, and satisfaction for competitive drives. It is likely that these youth are identified only when the conditioning effects have become so resistant to extinction that they begin borrowing, stealing, skipping school, failing classes, and manifesting other such symptoms characteristic of pathological gamblers.

These youth may fluctuate between heavy and problem gambling and are motivated to enter treatment and comply with instructions. It is proposed that counselling and minimal intervention programs benefit this subgroup. Successful treatments often employ cognitive-behavioral therapy and education to challenge distorted cognitions. When possible, supportive family members and peer supports should be invited to participate in the treatment plan (see Gupta & Derevensky, 2000, in this volume, for specific treatment interventions and techniques for youth gamblers).

### ***Pathway 2 Youth Gamblers***

Youth in this pathway are more easily identifiable and likely constitute the largest group of pathological youth gamblers. However, premorbid psychopathology makes this group more resistant to change and necessitates treatment that addresses the underlying vulnerabilities as well as specific gambling behaviors. Often depressed or anxious, youth in Pathway 2 may experience academic difficulties and have little social support at home. Unless affectively withdrawn, they are typically eager to pursue peer relationships and engage in risk taking behaviors. This tendency may sometimes result in difficulties with the law or school administrators, but their behaviors are the result of a desire for socialization rather than an innate impulsiveness or disregard for the rights of others. On standardized measures, they report elevated levels of depression and anxiety, low self-esteem

and self-efficacy, and familial patterns of neglect, abuse or abandonment. However, these youth are unlikely to exhibit serious pathology. They may use or abuse substances. However, a thorough interview will reveal that such use is designed to escape unpleasant realities at home, counter feelings of anxiety or depression, combat issues of grief and loss, or ensure peer approval.

Treatment for Pathway 2 youth gamblers should be multi-modal, consisting of cognitive restructuring for disordered gambling-related cognitions and supportive therapy to heal grief and loss issues. The prudent clinician will devote significant effort to rapport and trust-building to ensure compliance and continued attendance. It is also necessary with this group to obtain a detailed familial history, identifying developmental deficits that may have manifested in behavioral pathology. If levels of depression and/or anxiety are elevated, the youth may require referral for a psychiatric evaluation to determine the appropriateness of medication management. Likewise, substance abuse issues should be addressed with specialized treatment or attendance at a 12-step group when necessary. It is likely that Pathway 2 gamblers will display a lifelong inability to cope with stress in active ways. Instead, they will avoid stressors by mentally disengaging (gambling, watching television, playing video games) or physically disengaging (shopping, sleeping, partying) from the stressor. For that reason, treatment should include assessment of stress-coping and problem-solving styles and instruction in the use of active, problem-focused strategies.

### ***Pathway 3 Youth Gamblers***

These gamblers are the most difficult to treat. Compliance is typically poor and relapse rates are very high. Like Pathway 2 gamblers, their assessments will reveal a host of emotional vulnerabilities—depression, anxiety, self-injurious behavior, low-self esteem, and an extensive history of physical and emotional losses. Unlike Pathway 2 gamblers, this subgroup does not merely seek emotional solace from gambling but also craves high levels of arousal and intense stimulation, likely precipitated by a combination of biochemical or genetic deficits, personality pathology, and poor stress-coping and problem-solving skills. Gambling onset will be early, and these youth often present with a long history of antisocial and impulsive behavior and comorbid addiction, particularly substance abuse. Initial motivation for treatment is low, therefore, clinicians should focus initially on establishing a therapeutic alliance that offers some narcissistic reward for compliance (e.g., “get my parents off my back”).

Treatment strategies should be similar to those for Pathway 2. However, if it appears that biological correlates have contributed to the etiology



of the disorder. Clinicians should attend to problems related to attention and organizational deficits, emotional lability, stress intolerance, and poor problem solving and coping skills. It is also important to highlight issues of compliance and attrition from treatment since Pathway 3 gamblers are typically inconsistent, unreliable, and intolerant of boredom. These gamblers may require intensive, long-term cognitive behavioral treatment targeting impulse control, and they may benefit from group therapy which fosters peer support for recovery. Like Pathway 2 gamblers, these youth may require medication to balance their neurochemical imbalances and treatment for comorbid addictions.

### Conclusion

The Pathways Model identifies clinically distinct subgroups of gamblers who exhibit common, overt cardinal symptoms, but who, at the same time, differ significantly with respect to premorbid psychopathology, childhood history, and neurobiological functioning. The model proposes a conceptual framework that integrates research data and clinical observation to provide a structure to assist clinicians in identifying and separating distinct subgroups of gamblers that require different management strategies. While all youth gamblers are subject to ecological variables, operant and classical conditioning and cognitive processes, differences between subgroups have significant implications for diagnosis and treatment. *Pathway 1* youth gamblers are essentially normal in character but simply lose control over gambling in response to effects surrounding the probability of a win. In contrast, *Pathway 2* gamblers are characterized by disturbed family and personal histories, affective instability, and poor coping and problem-solving skills. They gamble as a means of emotional escape and mood regulation. Finally, *Pathway 3* gamblers exhibit biological vulnerability toward impulsivity and arousal-seeking, early onset of gambling, attentional deficits, antisocial traits, and poor response to treatment. Empirical research is needed to determine the relative proportion of youth in each pathway. However, identifying the appropriate pathway for youth gamblers by the characteristics presented should provide a practical and useful clinical guide that will ultimately improve the effectiveness of treatment interventions by refining diagnostic processes.

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