The history of gambling on an international level has passed through a number of cycles from prohibition to widespread proliferation. Gambling has gone from being associated with sin, crime, and degradation to its current position as a form of socially acceptable entertainment. The vastly changing landscape of gambling throughout the world seems to suggest that the pendulum between abstinence and widespread acceptance that I. Nelson Rose so eloquently describes,1 may never swing back to prohibition or to a more restrictive position. The prevailing attitudes of governmental legislators and the public at large indicate that new gaming venues (e.g., casinos in jurisdictions currently without such forms of gambling and new technologies in the form of interactive lotteries and Internet gambling) will continue to expand rapidly. This is not to suggest that the antilobbying groups have not succeeded but rather that they have been mere impediments to slowing the
growth of specific gambling activities. Gambling, or "gaming" as the industry prefers, is no longer regarded as a vice accompanied with stigmatization but rather as a legitimate form of entertainment. The very fact that some of the best-known educational institutions in the United States, including Harvard, Yale, Princeton, William and Mary, Dartmouth, Rutgers, and the University of Pennsylvania have gained operating funds through lotteries attests to the potential good to be derived from the proceeds of gambling. This tradition continues, with many state lotteries promoting their products by reporting that a proportion of the proceeds are used for educational initiatives and programs.

Our prevailing social policies, often established by default, appear to be predicated upon a model of harm minimization. Yet the development of effective social policy needs to be both reflective and directive of the social context from which it is derived. Good social policies must be reflective of their time while simultaneously projecting the future; they must be attuned to and mindful of history, yet they must exist within the context of the prevailing ideological, social, economic, and political values. They must at least to some degree anticipate the future, and be mindful of broader cultural influences and differences. The escalation of state supported (and owned) gambling is an enormous social experiment for which we currently do not have sufficient data to predict the long-term social costs.

What makes gambling somewhat distinct from other public policy domains is that it cuts across a number of social, economic, public health, and justice policy concerns. Gambling as a public health issue has become increasingly important. David Korn and Howard J. Shaffer make a strong argument for viewing gambling within a public health framework by examining it from a population health and human ecology perspective. They further argue that disordered gambling may not only be a problem in itself but also may be a "gateway" to substance abuse, depression, anxiety, and other significant mental health disorders.

Gambling remains a contentious social policy issue in many countries. While the perspective that gambling is not a harmful, innocuous behavior with few negative consequences is slowly changing, most adults strongly support their continued opportunity to gamble and view it as much less harmful than other potentially addictive behaviors and harmful social activities.

Once perceived as an activity primarily relegated to adults, gambling has become a popular form of recreation for adolescents. While in most cases legislative statutes prohibit children and adolescents from participating in legalized forms of gambling, there is little doubt that their resourcefulness enables many children and adolescents to engage in both legal and illegal forms of gambling. Research has revealed that upwards of 80 percent of adolescents engage in some form of gambling, with most best described as social gamblers. Yet, there remains ample evidence that between 4 to 8 percent of adolescents have a very serious gambling problem with another 10 to 15 percent at-risk from the development of a gambling problem. Acknowledging difficulties in comparisons of the data sets, the National Research Council report concluded that "the proportion of pathological gamblers among adolescents in the United States could be more than three times that of adults (5.0 percent versus 1.5 percent)." In the United States and Canada, approximately 15.3 million twelve to seventeen-year-olds have been gambling, while 2.2 million are reported to be experiencing serious gambling related problems. Trends between 1984 and 1999 indicate a significant increase in the proportion of youth who report gambling within the past year and those who report gambling related problems.

Increased child and adolescent gambling is not exclusive to North America. In the United Kingdom, numerous youth studies have been conducted due to children’s accessibility to the use of legalized, low-stake slot machines (fruit machines). Fruit machine playing, legalized gambling for children, is widespread among children and adolescents in arcade parlors in England, and their addiction is of serious concern. Large numbers of adolescents report playing fruit machines sometime during their adolescence, with 5 to 18 percent reporting playing weekly.

Of equal concern is the age of onset of children's gambling. Adolescents experiencing severe gambling problems report beginning gambling at nine or ten years of age where as adult problem gamblers report that their pathological behaviors began in late childhood and adolescence, often between ten and nineteen years of age. In the United Kingdom, children are reported to have begun playing fruit machines as early as eight to ten years of age. It appears that gambling behavior is established early and begins earlier than other potentially addictive behaviors including tobacco, alcohol, and illicit drug use. Given that there are few...
FAMILIAL FACTORS RELATED TO YOUTH GAMBLING

Gambling has also become something of a family affair. Results from several studies suggest that the majority of youth tend to gamble with their family (40 to 68 percent) as well as friends (55 to 82 percent). Equally disturbing are the findings that the majority of parents do not appear to be concerned with their children's gambling behavior. Approximately 80 to 90 percent of parents report that they know their children gamble for money and they do not object. A recent study by Felsher, Derevensky, and Gupta, examining lottery ticket purchases in Canada, found that 77 percent of adolescents reported that their parents purchased scratch lottery tickets and 50 percent purchased lottery draw tickets for their underage children, with 70 percent of adolescents reported having received a lottery ticket as a present (most notably for birthdays, Christmas, or special occasions). Research has also revealed that 78 percent of children gamble in their own homes.

A strong correlation has been found between adolescent gambling and parental gambling involvement. Retrospective studies indicate that 25 to 40 percent of adult pathological gamblers' parents were problem gamblers. Furthermore, the effects of parental gambling have far reaching consequences. For example, children from homes where parental gambling is a problem report feelings of insecurity and a greater need for acceptance.

PEER INFLUENCES

With respect to peer influences, M. D. Griffiths has reported that 44 percent of adolescents participated in gambling activities because their friends were engaged in similar practices. As children get older they tend to gamble less with family members in their own homes and more with friends in their homes. This trend reinforces the notion that for many youth, gambling is perceived as a socially acceptable and entertaining pastime. A recent study by Karen Hardoon and Jeffrey Derevensky reported that children aged ten to twelve who played a computer-simulated game of roulette, individually or in groups, demonstrated changes in their playing behaviors as a result of peer modeling. More specifically, average wagers of female and mixed-gender groupings appeared to be most affected by the group influence, whereby their wagers increased significantly. These findings suggest a strong social learning component involved in the acquisition of such behaviors.

GENDER DIFFERENCES

General findings indicate that gambling is more popular among males than females, with pathological gambling found to be three to four times higher among males than females. Adolescent males have also been found to make higher gross wagers and exhibit greater risk-taking behavior, report initiating gambling at earlier ages, gamble on a larger number and variety of games, gamble more often, spend more time and money when gambling, and experience more gambling-related problems than female adolescents. Also, parents appear to more often encourage gambling in their sons, as more males than females report gambling with their parents. Griffiths has speculated that gambling allows boys to display their masculinity in a social environment by exhibiting "courage and bravery" and thus may be more attractive to them than to girls. With respect to games played, girls seem to prefer scratch tickets and lotteries, whereas boys prefer sports betting and card games.
PHYSIOLOGICAL FACTORS

Adolescent pathological gamblers have been found to have an increased physiological resting state, to have a greater need for sensation seeking, and to be more aroused and excited during gambling than adult gamblers. They have also been found to dissociate more frequently when gambling.30

PERSONALITY FACTORS

Youth with serious gambling problems have been found to be greater risk-takers.31 The literature on risk-taking suggests that males are greater risk-takers than females and that adolescents, in general, tend to be greater risk-takers than adults. Given that gambling activities in and of themselves involve some risk-taking elements, the findings that adolescents take greater risks when gambling and remain at increased risk for the development of addictions are not surprising.

Adolescent problem and pathological gamblers have also been shown to score higher on measures of impulsivity,32 excitability, extroversion, and anxiety, and lower on conformity and self-discipline than non-problem gamblers.33 Problem and pathological gamblers have been found to be more self-blaming, guilt prone, anxious, and less emotionally stable.34 A recent study by Chantal Ste-Marie found that adolescents with significant gambling problems score higher on measures of both trait and state anxiety scales.35

EMOTIONAL AND MENTAL STATES

Adolescents with gambling problems have been found to have lower self-esteem and higher rates of depression and to report greater suicide ideation and suicide attempts than other adolescents. They have also been found to have poor or maladaptive general coping skills and tend to use more emotion and avoidant coping styles.36

PROBLEM BEHAVIORS ASSOCIATED WITH PATHOLOGICAL GAMBLING

Adolescent problem gamblers have been shown to be prone to engage in multiple, co-morbid addictive behaviors (smoking, drinking, drug use/abuse).37 They are also more likely to have difficulty in school including increased truancy and poor grades.38 While adolescents with gambling problems report having a support group, their former friends are often replaced by gambling associates.39 Problem gambling and pathological gambling have been shown to result in increased delinquency and crime, disruption of familial relationships, and decreased academic performance.40 Adolescents with gambling problems appear preoccupied with gambling-planning their next gambling activity, lying to their family and friends, and focusing on obtaining money to gamble with.41

There is little doubt that even with our increasing knowledge concerning adolescent gambling problems, gambling is largely viewed as a relatively benign activity that is significantly less harmful than alcohol, illegal drugs, or cigarettes. Gambling venues and activities for underage patrons remain easily accessible, with very few children reporting being fearful of getting caught gambling. Not surprisingly, increasing numbers

Figure 1. A conceptual model for understanding the domains of risk and protective factors that influence an individual's behavior. Adapted from Paul Brounstein and Janine M. Zweig, Understanding Substance Abuse Prevention: Toward the Twenty-First Century: A Primer on Effective Programs (Rockville, Md.: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. 1999)
of youth are experiencing gambling problems. There is also evidence that youth move more rapidly from initial gambling experiences to problem gambling than adults.\textsuperscript{42}

**YOUTH GAMBLING WITHIN THE CONTEXT OF ADOLESCENT RISKY BEHAVIORS**

From a developmental perspective, the period of adolescence is marked by significant physiological, cognitive, and emotional changes, feelings of insecurity, an increase in risk-related behaviors, and a desire for greater independence. The Center for Substance Abuse Prevention (CSAP) and the Substance Abuse and Mental Health Services Administration (SAMHSA) have articulated a conceptual model for understanding the domains of risk and protective factors that influence an individual’s behavior in which excessive, problematic gambling can be conceptualized (see fig. 1). Given that the prevalence data suggest that 4 to 8 percent of youth currently have serious gambling and gambling-related problems and another 10 to 15 percent are at risk for developing such problems, a better understanding of the risk factors associated with excessive gambling is paramount.

**GAMBLING PREVENTION MODELS**

Incorporating a harm-reduction approach, recent research has been undertaken to identify the risk factors for adolescent problem gambling. The examination of the commonalities of risk factors for problem gambling and other addictions provides sufficient evidence to suggest that gambling can similarly be incorporated into more general addiction and adolescent risk-behavior-prevention programs. Current research efforts\textsuperscript{43} may suggest the utility of a general mental health program that addresses a number of adolescent risky behaviors simultaneously (e.g., substance abuse, gambling, risky driving, truancy, and risky sexual activity).

While adolescent risky behaviors share many common risk factors, the activities themselves can differ on several important dimensions. Nevertheless, a harm-reduction approach appears appropriate for targeting those risky activities that yield no significant negative consequences when engaged in responsibly and moderately and are socially acceptable. Whether harm-reduction prevention programs are designed specifically for problem gambling or incorporated into a general mental health curriculum targeting multiple high-risk behaviors, the need for merging an abstinence approach with a harm-reduction prevention model is exemplified by the apparent contradiction that arises when the principles of the harm-reduction paradigm are applied to adolescents. Research highlights that early age of onset of gambling represents a significant risk factor for problem gambling.\textsuperscript{44} As a result, delaying the age of onset of gambling experiences may be fundamental in a successful prevention paradigm yet is more appropriate to an abstinence model.

On the other hand, teaching “responsible” gambling through enhancement of emotional and cognitive coping skills and by providing cognitive decision-making tools may also be appropriate. School-based programs need to target specific information about gambling to various age groups, educating youth about the forms of gambling they will most likely be exposed at each particular age (e.g., nine-year-olds are likely to be exposed to scratch tickets and bingo). One of the central goals of science-based prevention is to promote resilience. Thus, we need to ensure that harm-reduction programs include components that are specific to the period of adolescent development. Despite the lack of emphasis on promoting resilience in current harm-reduction programs, both resource factors (those operating independent of risk status)\textsuperscript{45} and protective factors (those interacting with risk status) contribute to resilience and need to be considered in the design of effective youth-gambling prevention programs.

Although there are currently no studies on protective mechanisms, or more generally on resiliency, for youth with respect to problem gambling, similar protective factors have been found to affect a multiple number of health and developmental outcomes in the presence of various stressors.\textsuperscript{46} Thus, it is likely that the common protective factors found for a number of problem behaviors will be interactive in promoting resiliency to problem gambling as well. To date, few prevention programs have addressed the issue of problem gambling, and those few have not had widespread dissemination, nor has their effectiveness been empirically validated.
It is clear that more basic, applied and longitudinal research is needed to investigate psychosocial and biological risk factors associated with youth experiencing gambling problems and to incorporate the results in the development of prevention programs. Additional research is also needed to examine the changes in prevalence rates, differences among gambling screens, cultural and/or ethnic differences, and the effects of the availability and accessibility of gambling and advertising on youth-gambling behavior and associated problems.

There remains little doubt that adolescents constitute a particularly high-risk group for acquiring gambling problems given their high rates of risk taking, their perceived invulnerability, their lack of recognition that gambling can lead to serious problems, and the social acceptability and glamorization of gambling throughout the world. It is important to note that gambling issues cut across a number of other public health policy domains—social, economic, health, and justice—and are only beginning to emerge on governmental radar screens as an important issue. Unfortunately, the governments that regulate, control, and in some cases own the gambling sites are also the recipients of the financial benefits, clearly representing a conflict of interest. Given that it takes several years to develop a significant gambling problem (often referred to as “the downward spiral”), the true social impact on youth will likely take years to realize. Our lottery corporations continue to encourage individuals to buy the dream. This is particularly troublesome for adolescents as we encourage them to study hard, achieve academically, and go to college because money and success will follow. . . . All their dreams can come true.

Equally important is that under most governmental statutes children and adolescents are prohibited from participating in legalized forms of gambling; yet we know that most young people have little difficulty purchasing lottery tickets and accessing other forms of gambling. A concerted effort must be made to ensure that those statutes are adhered to, with steep fines and penalties for the operators violating such laws. Where such laws are nonexistent, government legislators are strongly urged to initiate strong legislative statutes. Specific licensed products that are particularly attractive to underage populations, including cartoons, such as South Park and Betty Boop, and World Wrestling Federation products should be prohibited from being associated with games of chance and gambling. Role models should not be used to promote adolescent gambling. For example, Britney Spears, the youthful singing and entertainment phenomenon, was recently solicited by the Las Vegas Convention Bureau to be their official spokesperson. Spears, then twenty years old, was not yet old enough to legally gamble in Nevada.

Based on our current knowledge of youth gambling problems, consideration of the following items is regarded as crucial for informing policy development:

**Additional Empirical Research.** The field of youth gambling is relatively new, and as a result there currently are significant gaps in our knowledge. Much of the research to date has focused on prevalence studies. Unfortunately, no longitudinal research has been conducted focusing on following individual gamblers from youth to adulthood. While there is ample research from the alcohol, drug use, and cigarette-smoking literature to suggest that a risk-resiliency model may have significant benefits for our understanding as to why some individuals are at high risk for developing a significant gambling problem, further research on gambling itself is required. Governmental agencies, private foundations, and the gambling industry would be well advised to support research initiatives in order to better understand this vulnerable population. Much-needed basic and applied research funding is required to help identify common and unique risk and protective factors for gambling problems and other addictive behaviors, including longitudinal research to examine the natural history of pathological gambling from childhood to adolescence through later adulthood; molecular, genetic, and neuropsychological research to help account for changes in gambling progression; research assessing whether certain gambling activities may become a gateway to subsequent gambling problems; and the development and refinement of current instruments used to assess adolescent gambling severity.

**Emerging Public Health Issues.** Given the pervasiveness of the problems associated with youth gambling problems and the concomitant mental health, social, economic, educational and legal problems, there is a need to clearly identify the social, economic, and familial costs and any potential benefits associated with youth gambling. We need a better understanding of the effects of accessibility and availability of gaming venues on future gambling behaviors. Specific research needs to focus on
gambling advertisements and their relationship to the onset and maintenance of adolescent gambling and problem gambling. From a treatment perspective, adequate funds must be made available to help those youth currently experiencing severe gambling and gambling-related behaviors and their families. Along with our current treatment initiatives, we must begin a thorough exploration of best practices for working with these youth and ways in which we can encourage youth to seek help for gambling problems. A public health approach that examines the balance among health, social, and economic costs and benefits is needed to formulate a responsible gambling policy and strategy.\(^{47}\)

**Harm-Minimization Programs.** While there is still some controversy over abstinence versus harm-minimization, there is little doubt that most youth gamble among themselves and with family members and that most jurisdictions have multiple forms of legalized gambling for adults or adolescents. Yet a review of the literature revealed that relatively few gambling prevention or sensitization programs exist and those programs lack empirical evaluation as to their effectiveness.\(^{48}\) As a consequence, programs incorporating science-based problem gambling prevention need to be developed and evaluated as to their efficacy in order to help establish model programs. A substantial infusion of federal and state grants for the development of school-based and community-based gambling prevention programs is warranted. Such prevention initiatives must be ongoing from the elementary school level, should include competency building skills, enhancement of effective coping and adaptive behaviors, must emphasize changing attitudes, increase knowledge related to gambling, help modify erroneous conceptions, strengthen problem-solving skills, and enhance coping and adaptive skills.

**Technological Advances.** Gambling has not been immune to technological advances. On the contrary, technology continues to provide new gambling opportunities in the form of Internet gambling and more technologically advanced slot machines, VLTs, interactive lottery games, interactive television games, and telephone wagering.\(^{49}\) It is predicted that participation in Internet gambling will increase tenfold in coming years because (1) it is easy to access and use from home, (2) Internet gambling has the potential to offer visually exciting effects similar to video games, slot machines, and VLTs, and (3) the event frequency can be very rapid, particularly if the gambler subscribes to multiple sites. Given the increasing popularity, accessibility, and familiarity of the Internet, it represents another venue for potential problems for adolescents. Similarly, technological advances may well enhance innovative ways of educating our youth through Web-based courses, prevention initiatives, and online treatment. As government policy makers move forward, the introduction of Internet gambling should be viewed with extreme caution and safeguards need to be established to prevent problem gambling.

**Advertising.** There is little doubt that youth are particularly susceptible to advertisements in general and are considered an important target by advertisers. The advertising and glamorization of gambling is of great concern. The Virginia Lottery has advertising campaigns linked with NASCAR racing (a highly popular sport for adolescent and young adult males), several states have used Betty Boop in connection with their lottery, while other promotions include the opportunity to win Harley Davidson motorcycles. Recent data also suggest that young people pay particular attention to lottery advertisements, and like adults, are more likely to purchase scratch tickets when placed on checkout counters of local convenience stores.\(^{50}\) However, advertising campaigns geared toward informing and sensitizing the public can actually be beneficial.\(^{51}\) Public policy and advertising designed to enhance awareness of problems related to youth gambling needs to be implemented. Simultaneously, governments should establish strict advertising guidelines to discourage extravagant or misleading claims about gambling and opportunities to win.

**Information Dissemination.** The use of existing federal agencies to serve as a national clearinghouse for research and materials that will ultimately distribute best practices in the field of gambling prevention and treatment is necessary. Government gaming commissions should produce educational leaflets and brochures, post visible warning signs on gambling machines, and distribute information concerning the odds of winning on different types of gambling activities.

**Regulatory Bodies.** Regulatory bodies need an arms-length approach to properly monitor gambling. Periodic commissions to review national
policies on gambling, while beneficial, are not sufficient. Policies need to be enacted which promote responsible gambling, adopt harm-minimization approaches, govern advertising and dissemination of material, and fund appropriate treatment facilities and prevention activities. Applicants for a gambling license or facility, including governmental agencies, must adopt a clear mission statement as to their policy on pathological or problem gambling. This statement should be accompanied with a tax or other percentage contribution to create a dedicated fund for the development and ongoing support of problem gambling, research, public awareness, prevention, education, and treatment programs. Regulatory bodies need to continue to be sensitive to emerging and social issues related to pathological and problem gambling.

**CONCLUSIONS**

Many other more visible adolescent problems have prompted significant social policy recommendations (e.g., cigarette smoking, alcohol and substance use and abuse, increased suicide rates). However, issues surrounding youth gambling problems have been largely ignored. Only recently have health professionals, educators, and public policy makers acknowledged the need for the prevention of problem gambling. In light of the scarcity of empirical knowledge about the prevention of this disorder, the similarities between adolescent problem gambling and other risky youth behaviors—particularly alcohol and substance abuse—can be informative in the conceptualization of the future direction of gambling prevention programs and should be made a priority for legislators. Unfortunately, most pathological gambling prevention programs lack a strong theoretical orientation and have been implemented without being empirically evaluated. This deficiency is of serious concern, as such programs may in fact be inciting gambling behavior. Finally, most existing programs are school-based, aimed at children and adolescents, although it should be remembered that adults also remain at risk for the development of serious pathological gambling programs. Such behaviors can occur at any age.

There is a general assumption that individual policies and programs, although helpful, must be nested within a more cohesive policy framework to be maximally effective. Our governments should not take the important social and public health policy issue of gambling lightly. Our youth remain particularly vulnerable to the lure of gambling and require our immediate attention, concern, and efforts.

**NOTES**


27. Ladouceur, Dubé, and Bujold, “Gambling among Primary School Students.”


