

Review Article

Youth Gambling: Some Current Misconceptions

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Abstract

While most jurisdictions have legislative statutes prohibiting children and adolescents from engaging in regulated forms of gambling there remains evidence that young people are actively engaged in a wide variety of gambling activities. Youth have been particularly drawn to many of the technological advances engaged in by the gambling industry including online gambling and gambling through social media sites. Despite the fact that most youth who gamble do so on an occasional basis, meta-analyses of gambling prevalence studies have been remarkably consistent suggesting that adolescents, in particular adolescent males, represent a high risk group for developing a gambling disorder. The short and long-term consequence for youth with a gambling disorder has been associated with concomitant mental health disorders as well as familial, legal, psychosocial and academic problems. The current review identifies the risk and a protective factor associated with adolescent disordered gambling and argues for adopting a bio-psycho-social-environmental perspective when addressing youth gambling issues.

Introduction

Gambling remains one of the fastest growing businesses in the world. The number of casinos, poker rooms, sports wagering opportunities, lotteries, and online gambling sites continue to expand. While a number of gambling venues have recently experienced economic difficulties in certain jurisdictions (e.g., Atlantic City due to increased competition from neighboring states; Macau due to governmental restrictions imposed by mainland China), the landscape of gambling continues to evolve with more availability, greater diversity of gambling opportunities and easier accessibility for both adults and youth. No longer is gambling synonymous with sin and vice. Today, gambling is typically viewed as a socially acceptable form of recreation. This transformation in public attitudes toward gambling can be accounted for by governmental sanctioning and regulation of the industry as well as governmental ownership of the industry (e.g., lottery corporations and in some jurisdictions ownership of all forms of gambling including casino and online gambling) and the industry's movement away from 'gambling' to 'gaming' (an important distinction lies between gaming related to gambling and gaming within the context of videogames and social online games promoted by online operators (e.g., *Farmville*, *Candy Crush*, *Grand Theft Auto*, *World of Warcraft*, etc.). In addition to viewing gambling as a form of recreation and entertainment, a number of studies have reported that gambling in moderation is associated with positive behavioral changes including enhanced memory, improved problem-solving skills, increased mathematical proficiency, and improved concentration for the elderly [1], stress and anxiety reduction [2-4] and enhancement of one's self-esteem [5,6].

Adolescent gambling

Traditionally viewed as an adult activity, gambling's social acceptability, endorsement by governments, the glitz and glamour associated with casinos, and the possibility to become the next millionaire has managed to captivate the imagination of young

people. With television shows and movies depicting the glamorous side of gambling (e.g., *21*, *Runner*, *Casino Royale*, *Rounders*, *Vegas* and others) and televised world championship poker tournaments where young people win millions of dollars (the recent *World Series of Poker* tournament winners have most often been in their twenties), gambling continues to grow in popularity amongst youth. While most jurisdictions have legislative statutes prohibiting children and adolescents from engaging in government sponsored and/or regulated forms of gambling (e.g., lottery, casinos, horse racing, machine gambling, Internet wagering), there remains little doubt that many young people continue to be actively engaged in both regulated and non-regulated (e.g., card games and sports wagering amongst peers, etc.) forms of gambling [7,8].

Survey findings and prevalence studies examining youth gambling behavior have consistently revealed that adolescents (12-17 years of age) have managed to participate, to some degree, in practically all forms of regulated and non-regulated gambling activities. Such activities including sports wagering, purchasing of lottery scratch tickets, poker, dice, and wagering on games of personal skill (e.g., pool, bowling, sports), arcade or video games for money, gambling in bingo halls and card rooms, playing slot machines and table games in casinos, gambling on video lottery/poker terminals, wagering via the Internet, and placing bets with a bookmaker are quite common [7-13].

Gambling amongst adolescents, similar to adults, can be best viewed along a continuum ranging from non-gambling to social/occasional/recreational gambling to problem/pathological/disordered gambling (DSM-5 now refers to the most serious form of gambling problems as *disordered gambling*). Unlike other addictive behaviors (e.g., substance and alcohol-related disorders), there is no differentiation or categorization such as *gambling abuse versus gambling dependency*. The new DSM-5 [14] diagnostic criteria incorporating 9 items, has proposed a level of severity of gambling disorder (i.e., meeting 4-5 criteria is suggested to denote a mild

disorder; endorsing 6-7 criteria is representative of a moderate problem gambling disorder; while meeting 8-9 criteria connotes a severe gambling disorder) (others use the term problem gambling for individuals not reaching the diagnostics threshold [15]). Within the adolescent gambling literature, the terms *social/occasional non-problematic/recreational* gambling are typically used to denote occasional infrequent use with few or minimal gambling-related associated problems; at-risk gambling often refers to individuals exhibiting some gambling-related problems but not reaching the diagnostic clinical criteria for pathological/disordered gambling on a gambling severity screen, while *disordered, problem, pathological, probable pathological or compulsive gambling* are behaviors indicative of and associated with excessive gambling related problems [7]. Although adolescent gambling may be transitory and may not lead to adult gambling [16,17], there is both research and clinical evidence that the onset of gambling during pre-adolescence remains a vulnerability marker for later gambling problems [18,19].

The most popular types of gambling activities engaged in by adolescents, although highly dependent upon the age of the individual as well as the availability and ease of accessibility of different gambling venues), typically include sports betting (primarily with peers but also through lottery outlets and/or with a bookmaker; online wagering through daily fantasy sports wagering is dramatically increasing), card playing, lottery purchases (scratch tickets are significantly more popular than lottery draws), dice and board games with family and friends, games of personal skill with peers, and bingo [7], with a growing number of youth engaged in these games via the Internet [9,20-24]. A new phenomenon has recently emerged with many adolescents engaged in playing social casino games via the Internet (on computers, PDAs, Smartphone's) for virtual currency. There is some literature suggesting a migration from these games to actual gambling activities [25,26]. As well, with online fantasy sports wagering expanding exponentially there is evidence that daily fantasy leagues are particularly attractive to youth. A large NCAA study of college student athletes has suggested that engaging in fantasy sports wagering is particularly attractive to individuals experiencing a gambling disorder [27].

Factors including the local availability and accessibility of games, the geographical proximity of gaming locations, the child's gender and type of game (gambling is more popular amongst males than females; males prefer sports wagering whereas girls report engaging in lottery purchases more often), the individual's age (relates to ease of accessibility for age-restricted forms of gambling), parental attitudes toward youth gambling and cultural factors are all important determinants of the frequency and types of games in which youth gamble [8,11,12,28-33].

Why are adolescents gambling?

Similar to adults, there are multiple underlying motivations for gambling by adolescents. While the potential to win money is a driving force, there is abundant research showing that this is often not the primary motivation. Other reasons include gambling for the competition, some view it as a potential profession, and others use gambling as a way of fulfilling psychological needs including coping with adversity, escape from daily stressors (academic, familial or work-related), or as a way to reduce anxiety and depression. Still others

use gambling as a form of socialization or an escape from boredom, mental and physical health issues, to relieve loneliness or to pass time. Most adolescents often report gambling for multiple reasons. There is also ample research suggesting that amongst a number of potentially risky behaviors (e.g., smoking, alcohol consumption and drug use) gambling is engaged in at an earlier age and more frequently endorsed by adolescents [7].

Do adolescents experience gambling-related problems?

Given a small proportion of adults experience significant gambling-related problems (approximately 1-2%), the question remains as to whether adolescents similarly experience problems. A number of meta-analyses and reviews of adolescent problem gambling prevalence studies have been remarkably consistent suggesting that adolescents as a group constitute a high-risk population for gambling problems, with males more likely to gamble, experience gambling-related problems, and reach clinical criteria for pathological/disordered gambling [7,8,11-13,28,31,34,35]. In examining the international research data, Volberg and her colleagues [8] concluded, while noting significant methodological differences in prevalence studies, the best estimates indicate that between 60-80% of adolescents report having engaged in some form of gambling for money during the past year (age and accessibility dependent), with most individuals being considered either social, recreational or occasional gamblers. Nevertheless, there remains ample evidence that between 2-8% of adolescents have a very serious gambling problem with another 10-15% being at-risk for the development of a gambling problem [8,11,28,36,37]. Even after acknowledging methodological difficulties and differences when comparing data sets there seems to be ample support suggesting that adolescent problem gambling rates exceed those of adults and that among adults those between ages 18-25 seem to have the highest prevalence rates of gambling problems.

Adolescents with gambling-related problems typically experience a wide range of social, economic, personal, mental health, physical health, familial and legal problems. They have also been shown to have a disproportionately high level of delinquent and criminal behavior, disruption of familial relationships, poor academic and work performance, and difficult peer relationships. These youth have been reported to have high rates of suicide ideation and suicide attempts and diverse behavioral problems [24,38-47]. There currently is no consensus as to whether an individual's mental health, personal and familial problems leads them to gamble excessively or whether these problems are a result of their excessive gambling. Only longitudinal research, currently lacking amongst this age group, can help answer this question.

What is clear is that individuals with gambling problems typically report having a preoccupation with gambling; indicate chasing losses (trying to recoup money lost); lie to family members, peers and friends about their gambling; use their lunch money and/or their allowance for gambling; became tense and restless when trying to reduce their gambling; reported spending increasing amounts of money gambling; and indicated gambling as a way of escaping problems. Approximately a quarter of adolescent problem gamblers reported missing school to gamble; had indicated having stolen money from a family member to gamble without their knowledge; sought help for serious financial concerns resulting from their gambling; and

indicated gambling-related familial problems. Approximately 12% of these youth report having stolen money from outside the family to enable their continued gambling [36].

There is a growing body of literature suggesting that pathological/disordered gamblers are not a homogeneous group and that some types or forms of gambling, impacted by their structural or situational factors, may be more problematic and symptomatic of problem gamblers (e.g., slot machines and electronic gambling machines have been called the “crack cocaine” of gambling; an activity which was designed to result in repetitive play (addiction) [48]. Parke and Griffiths [49] have argued that ever since the first slot machine was introduced to the general public in 1895 (and there have been enormous changes in their design features), the gaming industry has incorporated a multitude of design features to entice individuals to try their luck and to sustain their gambling. While there are many bio-psycho-social-environmental determinants associated with problem gambling, an understanding of the structural and situational characteristics is similarly important. By examining the structural characteristics (those characteristics that facilitate the acquisition, development and/or maintenance of one’s gambling behavior irrespective of individual factors), one can have a better understanding of the allure of gambling. While Parke and Griffiths [49] have focused on electronic gambling machines (e.g., slots, video poker machines, fruit machines, video lottery terminals) to elucidate their perspectives on the importance of structural characteristics, similar characteristics may be found in other forms of gambling. Such structural characteristics include stake size, event frequency, probability of winning, jackpot size, skill or perceived skill, near miss opportunities, light, color and sound effects, whether payouts are in displayed in credits or money, the use of clocks on machines, etc. Griffiths [50] argued that the structural characteristics of a particular type of gambling itself may act as a reinforcement for continued maintenance of gambling (very much using a Skinnerian behavioral model), may satisfy an individual’s psychological and physical needs, and may actually promote, facilitate or maintain excessive gambling.

In addition to structural characteristics impacting gambling, situational factors similarly play an important role. Such situational factors include ease of accessibility, geographical distances needed to travel to gamble, cultural differences, parental attitudes, age restrictions (age requirements can differ depending upon the type of gambling with lottery purchases often having lower minimum age requirements than casino gambling or vary greatly depending upon jurisdiction). In addition to the structural and situational factors, a number of correlates as well as personal and mental health risk factors have been found to be associated with adolescent problem gambling.

Correlates And Risk Factors Associated With Problem Gambling: Our Current Knowledge

Problem gambling, similar to multiple other mental health disorders, has been shown to have multiple associated risk factors [7,24]. Given a general acceptance that adolescent problem or disordered gamblers are not a homogenous group, alternate motivations to gamble, unique associated correlates and the weightings of the risk factors contributing to problem gambling differ amongst individuals. As such, there is no single constellation of risk factors that can alone predict with certainty that an individual will

develop a gambling disorder. It should also be noted that many of the identified risk factors are similarly associated with other mental health and/or addictive disorders; one of the reasons disordered gambling is now classified as a Behavioral Addiction in the recently revised DSM-5 [14].

Considerable research during the past twenty-five years has focused on identifying those risk factors associated with excessive adolescent gambling problems while also identifying possible protective factors as a way of minimizing, preventing or reducing problematic gambling [7,24,51-53]. While multiple constellations of risk factors in conjunction with a lack of specific protective factors likely place certain individuals at high-risk for a specific problem, there is a growing recognition that the etiology underlying gambling problems is not universal, that the constellation of risk factors may be different for individuals and that a number of distinct pathways may exist which lead to pathological gambling [54,55] (these pathways also have direct implications for the treatment of gambling disorders).

Recent strides toward the understanding of the onset and developmental course of gambling problems suggest the importance of adopting a bio-psycho-social-environmental framework (see Blanco, Hanania, Petry, Wall, Wang, Jin & Kendler [56] for their analysis of a comprehensive developmental model of pathological/disordered gambling and Gupta, Nower, Derevensky, Blaszczyński, Faregh & Temcheff [54]) for a discussion of the *Pathways Model*).

Empirical support of behavioral patterns, correlates and risk factors associated with adolescent gambling and problem gambling suggest the following:

- Gambling remains more popular amongst adolescent males than females and more adolescent males than females exhibit disordered gambling behaviors [2,8,11-13,24,31,57-59]. Disordered gambling amongst male adolescents has been found to be anywhere from 2-4 times as prevalent as among females [8,33,51,60]. Males have also been shown to make higher gross wagers [61], gamble earlier, gamble on more diverse activities, gamble more frequently, spend more time and money, and experience more gambling-related problems than females [7,58]. Parents (especially fathers) have been found to encourage their son’s gambling, males are more likely to gamble with their fathers, with parents not being particularly concerned about their children’s gambling behaviors independent of their gender [62].
- Among adolescents, there is often a rapid movement from social/occasional/recreational gambler to problem/disordered gambler [8,63,64].
- Adolescent problem gamblers report initiating gambling at an early age (approximately 10-11 years of age) compared with peers who report gambling occasionally with few gambling-related problems [8,11,64-67].
- Youth problem gamblers often report experiencing an early “big win” [35,66,68,69].
- Initial gambling experiences often originate with family members in their own homes [66], with older siblings being an early influence. As children mature, their gambling patterns change, with the peer group becoming more dominant and gambling activities changing with interest and ease of accessibility.

- Adolescents with gambling problems are more likely to report having parents who they perceive gamble excessively, are involved in other addictive behaviors, and/or have been involved in illegal activities [44,70-72].

- The peer group plays an important role in endorsing or promoting gambling. Having a friend with a gambling problem appears to be a risk factor, with upwards of 40% of disordered gamblers reporting having friends with similar gambling [40] or substance abuse problems [73].

- The normalization of gambling is supported by adolescents' positive attitudes toward gambling as a highly socially acceptable behavior and pastime [7].

- High gambling frequency during adolescence along with engaging in multiple different types of gambling has been reported to be a risk factor for the emergence of problem gambling [74].

- While adolescents often fail to comprehend the totality of the consequences of their gambling behaviors, many are cognizant of the problems associated with excessive gambling. However, most adolescent pathological gamblers don't perceive themselves as having a gambling problem [75] and view the risks associated with disordered gambling as long-term consequences and not of immediate concern [76]. This is a key reason few seek treatment.

- Cultural differences have long been associated with the social acceptance and attitudes toward gambling, however the research results have been inconclusive. Arndt and Palmer [77] noted significant racial/ethnic differences amongst adolescent gamblers. White (26.0%) and Asian (25.8%) adolescents were reported to have had the least lifetime exposure with Latino (30.1%), African American (32.6%) and Native Americans (34.1%) having the highest exposure. Ellenbogen, Derevensky and Gupta [29] reported significant cultural differences in adolescent gambling behaviors amongst Francophones (French speaking families), Anglophones (English speaking families) and Allophones (neither English nor French was their mother tongue) in Quebec, Canada, with Allophones exhibiting the highest rates of problem gambling. More recent Canadian studies [78] as well as British studies [12] amongst adults both report Asians had higher rates of gambling but amongst American adolescents Welte et al. [13] reported that Asians had the lowest rates of problem gambling.

- Several personality traits have been shown to differentiate problem adolescent gamblers from their peers. Problem gamblers have been found to score higher on measures of excitability and extroversion, score lower on measures assessing conformity, and experience difficulties with self-discipline [43,54,79,80]. These problem gamblers also report higher levels of state and trait anxiety [81,82], are greater risk-takers [28,55,83], and are more self-blaming and guilt prone [84].

- Adolescent problem gamblers exhibit higher scores on measures of disinhibition, boredom susceptibility, impulsivity and other self-regulatory behaviors (e.g., self-indulgence) [24,54,55]. Impulsivity has also been linked in decision-making. Some recent research has demonstrated the links between an urgency trait, decision-making, impulsivity and gambling-related outcomes [85]. Other research has shown differences on agreeableness (lower scores were

more indicative of problem gamblers) and poorer performance on measures of intellect/imagination [57].

- Adolescents with gambling problems have been shown to score lower on measures of self-esteem and self-worth [7,30,81].

- Online gambling [21,86,87], as well as social casino gambling appear to be consistent with adolescent and young adult gambling disorders [25,26,88].

- A multiplicity of school-related problems including increased truancy, delinquent antisocial behaviors, conduct disorders and poor academic performance have been shown to be associated with increased gambling problems [7,44,64,69]. Problem gamblers are more likely to have repeated a grade in school [44] and report a greater frequency of both attention deficit hyperactive disorder and conduct-related problems while in school [44].

- Consistent with the *Pathways Model* of problem gambling [54,55], adolescents with gambling disorders have been shown to exhibit multiple mental health problems including high levels of anxiety and depressive symptomatology [41,79,81,89].

- Youth with severe gambling problems remain at heightened risk for suicide ideation and suicide attempts [55].

- There has been a growing body of evidence, amongst both adults and youth, that supports phenomenological, clinical, epidemiological and biological links between problem/disordered gambling and substance use (tobacco, alcohol and drugs) [44,47,51,64,71,81,90-103].

The fact that all of these risk factor behaviors may be interrelated is perhaps suggestive that problem gambling occurs within a problem-behavior syndrome or framework [7,93,104,105]. As such, commonalities reflecting aspects of adolescent risk-taking in general, poor decision-making processes, and experiential learning appear to be common amongst multiple high-risk behaviors [85], all of which have prevention and treatment implications.

There has been a growing body of research suggesting that adolescents with severe gambling disorders engage in their gambling as a means of coping with life's adversities. These maladaptive coping strategies are engaged in to help escape both past and current problems including daily academic, mental and physical health or social problems as well as major traumatic life events [30,41,89,106]. Given their poor or maladaptive general coping strategies and inadequate decision-making processes an identifiable number of youth turn to gambling while others turn to excessive alcohol and drug abuse or dependency as a strategy for dealing with adversity and major life problems.

While little adolescent longitudinal data is currently available, the adult longitudinal studies to date do not bode well for the long term mental health prospects of disordered gamblers [107,108]. Nevertheless, it is important to note that similar to the use of other substances, many individuals likely will stop gambling excessively over time with and without therapy, however the relapse rate remains high. Despite lower adult prevalence rates of disordered gambling, suggesting that adolescent problem gamblers may undergo natural recovery and no longer report clinical signs of disordered gambling,

the impact of their gambling and associated personal, social, familial, and legal consequences can have lifetime negative consequences. For many of these adolescents early gambling disorders negatively impact long-term career trajectories.

Protective Factors

While greater emphasis has been devoted to identifying risk correlates associated with gambling disorders, several studies have begun to examine the protective factors that might mitigate problem gambling. Based upon Jessor's [105] general theory of adolescent risk behaviors, Dickson and her colleagues [52] concluded that while there are some unique risk factors associated with problem gambling, many of these risk factors have been similarly shown to be consistent with other adolescent risky behaviors (e.g., drug and alcohol use and abuse, cigarette smoking, unprotected sex). In a large study with adolescent problem gamblers, using multiple self-report measures, Dickson and her colleagues reported that poor family and school connectedness was highly symptomatic of adolescent problem gambling, with family cohesion playing a significant role as a protective factor.

In a series of studies, Lussier and her colleagues [109,110] focused upon the importance of resilience as a possible protective factor for youth gambling problems. Adolescents perceived to be *Vulnerable* (high risk/low protective factors) were reported to have gambling severity larger than the *Resilient* group (high risk/high protective factors), larger than the *Fortunate* group (low risk/low protective factor), and considerably larger than the *Ideal* group (low risk/high protective factors). Youth identified as *Vulnerable* were found to be at greatest risk for experiencing gambling problems. The results further revealed that all (100%) of the youth identified as pathological/disordered gamblers and 87% of those classified as at-risk (exhibiting a number of identifiable problems but not reaching clinical criteria for pathological gambling) for problem gambling scored on the resilient measure as being *Vulnerable*, while only 4.3% of youth identified as Resilient were identified as at-risk gamblers, and none were pathological gamblers despite their reporting high levels of risk exposure. There is little doubt that resilience appears to be a key protective factor and needs to be included in mental health initiatives and prevention programs [41].

While a number of individual, situational and environmental risk and protective factors have been found to be related to youth problem gambling behaviors, the causal links have still not yet been empirically verified. Our current knowledge still remains limited as to the combinations of risk and protective factors that interact to increase the likelihood of specific individuals engaging in gambling excessively or which developmental period is most critical. Similarly, our understanding of those protective factors that may minimize and reduce the risk of excessive gambling remains limited. Will parental disapproval be sufficient? Do we require large-scale prevention programs to be implemented? Is governmental intervention and stricter adherence to current legislative regulatory issues important?

Large longitudinal and prospective studies are only beginning and are needed to elucidate the underlying mechanism associated with a gambling disorder. Such studies will hopefully help discern and identify where the lines of risk and resilience intersect, within and across individuals, and their interactions with different forms of gambling.

Conclusion

With the normalization of gambling as a socially acceptable form of recreation and the growth of the industry, gambling venues and new forms of gambling continue to expand. While significant advances have been made in our understanding of the risks and protective factors associated with adolescent problem/disordered gambling, few widespread prevention programs exist internationally. In spite of this knowledge, there is ample evidence suggesting a lack of public awareness about youth gambling. Unlike many other adolescent risky behaviors (tobacco smoking, drinking and driving, substance abuse, bullying, etc.) the educational and mental health systems have yet to adequately address this issue [111]. As the landscape of gambling continues to evolve, with greater acceptability, new technological forms of gambling and easier accessibility, there is an apparent increased need for the development of empirically based prevention initiatives and the training of treatment providers. In spite of relatively stable prevalence rates of disordered gambling there remains concern that the incidence of problem gambling amongst youth may continue to rise with ongoing exposure [7,59]. While there have been declining patterns of certain forms of gambling (e.g., lottery play, bingo, charitable gambling), other forms have shown increases (e.g., Internet gambling, mobile gambling, Fantasy Sports wagering). The changing landscape of gambling, with emphasis on the use of technological devices such as online and mobile gambling, the inclusion of social casino games, and the normalization and social acceptability of gambling represent new challenges.

Adolescence, as a developmental stage, is typically marked by significant risk-taking, as well as physical, social, cognitive and emotional changes. There is little doubt that adolescents view gambling as a socially acceptable activity with few negative consequences. Whether early gambling alone is sufficient to result in more severe long-term problems remains questionable. The arguments for examining gambling problems through a bio-psycho-social-environmental lens seem important. The long-term social impact resulting from gambling's social acceptability and expansion will likely not be realized for some time. More solitary play through online and mobile gambling may be a game-changer. The fact that youth may engage in online simulated forms of gambling without money is also an area that needs to be addressed. Such sites often have unrealistically higher pay out rates [112] that may distort young people's perceptions as to their skill. While a recent study by Carran and Griffiths [113] suggests that for their sample non-monetary forms of gambling presented a different distinct scenario to real money gambling with no apparent overlap between the two, there does seem to be evidence that the industry is trying to migrate individuals from their non-monetary sites to actual gambling for money and that youth view such non-money gambling sites as a "training ground" for future gambling [11,89,114-116]. Carran and Griffiths [113] and Kim et al., [26]. Further caution that these 'demo' sites may attract individuals with an interest in gambling.

Today's generation of adolescents will spend their entire lives in an environment where gambling is prolific, government supported, socially acceptable and easily accessible in spite of some age restricted prohibitions. A recent series of studies examining parental, teacher and mental health professionals perspectives on youth problematic

behavior *all* revealed that amongst 13 potentially risky adolescent behaviors gambling was the least concerning [62,111,116,117]. Until greater acknowledgement and acceptance of the potential impact of youth gambling has been realized, adolescents remain at heightened risk for developing gambling-related problems.

Derevensky [7,118] has argued for more research to help identify common and unique risk and protective factors for gambling problems and other addictive behaviors; longitudinal research to examine the natural history of both regular and pathological gambling from childhood through later adulthood; and molecular, genetic and neuropsychological research to help understand the changes in gambling progression and the identification of markers to help more clearly identify high-risk individuals. It is important to acknowledge that the gambling industry as well as government regulators has begun to realize the potential negative impacts of excessive gambling and have collaborated with researchers and clinicians in developing “responsible gambling/harm minimization strategies.” While the vast majority of these strategies have been aimed at adults, a number of prevention programs have been developed for youth (see Derevensky and Gilbeau [119]). These efforts have not gone unnoticed but need to be strengthened and enforced.

Other factors including the widespread use of social media and social casino gambling and its ultimate impact upon gambling prevalence rates require further examination. A variety of treatment and prevention models need to be tested and validated before *Best Practices* can be reliably established. While the research has pointed to the importance of examining commonalities between gambling and comorbid substance use, preventative interventions targeting common risk factors may also need to be complemented by modules specific to each behavior [120]. Adolescent problem gambling disorders are often referred to as a “hidden addiction.” They may not be as easily detected as substance abuse/dependency or as other high-risk behaviors; nevertheless their short and long-term impacts can be devastating. Youth problem/disordered gambling represents an important public health issue that needs to be addressed.

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