

Adolescent Gambling

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Glossary

Convergence: In relation to media, convergence basically refers to all modes of communication and information converging into a digital nexus. In a general sense, media convergence is viewed as a process of 'blurring the lines between media' due to the growing use and influence of digital electronics and can relate to both hardware and software. Convergent behaviors include such activities as online computer gaming and interactive television, whereas convergent technologies include handheld devices that can integrate telephone, Internet, and television technologies.

Gambling addiction: An addiction to gambling whereby the individual's life is taken over by gambling. Gambling becomes the single most important activity in that person's life that they often do to the neglect of everything else. They build up tolerance over time, use the activity as a mood modifying behavior, and suffer withdrawal symptoms if they are unable to gamble.

Internet gambling: Any form of gambling that is done on the Internet and covers many different types. This includes gambling in online casinos (on simulated slot machines, roulette wheels, etc.), gambling in betting exchanges (where gamblers make private bets with other punters and are paired up by the service provider), gambling on lotteries (such as playing the national lotto game via the Internet, or use of an electronic scratch card), and gambling at online poker sites (where punters play in real time against other real competitors); also known as online gambling.

Practice mode: A 'free play' facility offered by numerous online gambling service providers that give players the opportunity to play for free and 'practice' the game without spending any money; also known as 'demonstration' ('demo') or 'free play' modes.

Problem gambling: Term used by many researchers, bodies, and organizations to describe gambling that

compromises, disrupts, or damages family, personal, or recreational pursuits. More recent thinking regards problem gambling as behavior that exists on a continuum, with extreme, pathological presentation at one end, very minor problems at the other, and a range of more or less disruptive behaviors in-between.

Remote gambling: Any form of gambling that is provided remotely by gaming operators; including Internet gambling, interactive television gambling, and cell phone gambling.

Situational characteristics: Features of the gambling environment that often influence people's initial gambling behavior and can include macrosituational characteristics external to the gambling venue (e.g., advertising, number of gambling venues in a particular area) and microsituational characteristics found in the gambling venue itself (e.g., free alcohol, cash machine on the gaming floor, sound, lighting, décor, etc.).

Social networking: The practice of expanding the number of a person's business and/or social contacts by making connections through individuals electronically. Social networking focuses on bringing people together to interact with each other (typically) through chat rooms, and share personal information and ideas around any topics via blogs or texts. The main types of social networking services are those that contain category divisions (such as former school-year or classmates), means to connect with friends (usually with self-description pages) and a recommendation system linked to trust. Popular methods now combine many of these, with *Facebook* and *Twitter* widely used worldwide.

Structural characteristics: Features of the gambling activity itself and often influence the development and maintenance of gambling behavior (e.g., event frequency, jackpot size, illusion of control features, etc.).

Introduction

For most individuals, gambling is a social activity enjoyed in moderation. However, for a small but significant minority, gambling is an activity that can have devastating negative consequences. The American Psychiatric Association defines pathological gambling as persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits. Problem gambling is characterized by unrealistic optimism on the gambler's part. All bets are made in an effort to recoup their losses (often referred to as 'the chase'). The result is that instead of 'cutting their losses' gamblers get deeper into debt preoccupying themselves with gambling, determined that a big win will repay their loans and solve all their problems. Family troubles begin and illegal borrowing and other criminal

activities in an effort to get money usually start to occur. At this point in the problem gambler's career, family and/or friends may 'bail out' the gambler. Alienation from those closest to the pathological gambler characterizes the appearance of the final desperation phase. In a last ditch frenzied effort to repay their debts, illegal criminal behavior reaches its height and when there are finally no more options left, the gambler may suffer severe depression and have suicidal thoughts. However, problem gambling can also occur in adolescents.

Adolescent Gambling

There are many reasons why adolescent gambling is an issue of concern in Western society. For instance, research among

adult gamblers has shown that individuals with severe gambling-related difficulties began gambling at a much earlier age than people without gambling problems. Another concern is that adolescent gambling often co-occurs with other risky behaviors and mental health problems during adolescence. If unaddressed, this may affect adolescents' success in overcoming other difficulties in their lives. It also appears that adults may to some extent be fostering adolescent gambling. For example, a strong correlation has been found between adolescent gambling and parental gambling. This is particularly worrying because a number of studies have shown that when people gamble as adolescents, they are then more likely to become problem gamblers as adults. Similarly, many studies have indicated a strong link between adult problem gamblers and later problem gambling among their children. Other factors that have been linked with adolescent problem gambling include working class youth culture, delinquency, alcohol and substance abuse, poor school performance, theft, and truancy.

Despite a large increase of research into adolescent gambling, there remains a significant lack of consensus around the question of what constitutes problem gambling among adolescents and how to measure the disorder. Although well-accepted screening methods for identifying pathological gambling in the adult population have been developed, there are problems when using these screening tools on adolescent samples. For instance, the criteria for identifying pathological gambling among adults were developed on the basis of adult life experiences. Adolescents have not had time to develop the same level and/or depth of life experiences. Another concern is that the criteria for pathological gambling have never been clinically tested among adolescents and there is little information about their validity among adolescents.

The few instruments that have been developed to assess adolescent problem gambling have (in the main) been derived from adult screening instruments. The majority of adolescent gambling studies worldwide have used either South Oaks Gambling Screen Revised for Adolescents (SOGS-RA) or an adaptation of the Fourth Edition of the Diagnostic and Statistical Manual (DSM-IV) adult psychiatric criteria for pathological gambling that has been revised with Multiple Responses for Juniors (DSM-IV-MR-J). When comparing these two screens and one other measure of problem gambling (the Gamblers Anonymous 20 Questions (GA-20Q)), one study found substantial agreement between all the three instruments, although the DSM-IV-J yielded a lower prevalence estimate than either the SOGS-RA or the GA-20Q.

Prevalence of Gambling and Problem Gambling in Adolescents

There are many definitions of problem gambling, although most agree that the consequences compromise, disrupt, and/or damage family, occupational, personal, and/or recreational pursuits. The most widely used screening instrument for measuring problem gambling behaviors in youth (i.e., the DSM-IV-MR-J) includes a set of nine criteria. An adolescent who meets four or more of these criteria is identified as a problem gambler. The criteria are that the young person

- is preoccupied with gambling;
- needs to gamble with increasing sums of money in order to achieve the desired excitement;
- is restless or irritable when attempting to cut down on gambling;
- gambles as a way of escaping from problems or relieving depression;
- returns – after losing money gambling – another day in order to get even;
- lies to family members or others to conceal the extent of involvement with gambling;
- often spends much more money on gambling than intended;
- has committed antisocial or illegal acts, such as using their school fare or dinner money, or stealing from family or others, in order to finance gambling; and
- has fallen out with family, truants from school, or has disrupted schooling because of gambling.

Despite uncertainty about precisely what adolescent problem gambling screens measure, there have been many studies examining the patterns of gambling and problem gambling among adolescents across many countries. A comprehensive 2010 review of adolescent gambling examined the methods and results of all the adolescent prevalence surveys that have been carried out in North America (the United States and Canada), Europe and the Nordic countries, and Australasia (Australia and New Zealand) (see [Tables 1–5](#) for a complete list of studies, dates, research teams, and screening instruments).

In the United States, the prevalence of past year adolescent gambling in the only national study was 67% with a past year problem gambling rate of 1.3%. However, state-by-state across more than 20 studies (see [Table 1](#)) show there are large variations ranging from 20% to 86% (past year adolescent gambling prevalence rates) and 0.9–5.7% (past year adolescent problem gambling prevalence rates). In Canada, there has been no national study, only provincial surveys (see [Table 2](#)). These have shown a past year adolescent gambling prevalence of 24–90% and a past year adolescent problem gambling rate of 2.2–8.1%.

In Europe, there have been relatively few studies of adolescent gambling and the quality is variable in terms of sample size, representativeness, and quality of data. Adolescent gambling prevalence rates have been reported for a number of countries. These include Belgium (42% lifetime prevalence), Estonia (75% lifetime prevalence), Finland (52% past year prevalence), Germany (62% past year prevalence), Great Britain (19–70% past year prevalence), Iceland (57–70% past year prevalence), Norway (74–82% past year prevalence), Romania (82% lifetime prevalence), Slovakia (27.5% lifetime prevalence), and Sweden (76% past year prevalence) (see [Tables 3 and 4](#)). Adolescent problem gambling prevalence rates have been reported for a number of countries. These include Estonia (3.4% lifetime prevalence), Finland (2.3% past year prevalence), Germany (3% past year prevalence), Great Britain (2–5.6% past year prevalence), Iceland (1.9–3.0% past year prevalence), Italy (6% past year prevalence), Norway (1.8–3.2% past year prevalence), Romania (7% lifetime prevalence), Spain (0.8%–4.6% past year prevalence), and Sweden (0.9% past year prevalence).

Table 1 Summary of adolescent prevalence surveys carried out in the United States

<i>Location</i>	<i>Author</i>	<i>Year data collected</i>	<i>Sample size and ages</i>	<i>Method</i>	<i>Measure</i>	<i>Gambling participation (past year)</i>		<i>Problem/pathological gambling</i>	
<i>Early period (1984–1989)</i>									
California	Jacobs et al.	1985	843 14–18	Classroom	GA 20 Questions	20		4	
California	Jacobs et al.	1987	257 14–18	Classroom	GA 20 Questions	45		4	
Connecticut	Steinberg	1988	573 14–18	Classroom	SOGS	60		5	
New Jersey	Lesieur and Klein	1984	892 16–18	Classroom	Pathological gambling signs index	86		5.7	
Virginia	Kuley and Jacobs	1987	212 14–18	Classroom	GA 20 Questions	40		Not reported	
Virginia	Kuley and Jacobs	1989	147	Classroom	GA 20 Questions	58		Not reported	
<i>Middle period (1990–1999)</i>									
Georgia	Volberg	1996	1007 13–17	Telephone	SOGS-RA MFM	52		2.8	
New York	Volberg	1997	1103 13–17	Telephone	SOGS-RA MFM	75		2.4	
Oregon	Volberg	1998	997 13–17	Telephone	SOGS-RA	66		1.4	
Texas	Wallisch	1992	924 14–17	Telephone	SOGS-RA MFM	66		5.0	
Texas	Wallisch	1995	3079 14–17	Telephone	SOGS-RA MFM	67		2.3	
Washington	Volberg	1993	1045 13–17	Telephone	SOGS-RA MFM	70		0.9	
Washington	Volberg and Moore	1999	1000 13–17	Telephone	SOGS-RA MFM	65		0.9	
Louisiana	Westphal et al.	1998	11 736 6th–12th grades	Classroom	SOGS-RA	86		5.8	
Vermont	Proimos et al.	1998	16 948 8th–12th graders	Classroom	Single item	53		7.0	
Minnesota	Winters et al.	1992	75 806 9th and 12th graders	Classroom	2-item screen	M9 = 83 M12 = 86	F9 = 60 F12 = 63	2.4 2.6	0.7 0.6
Minnesota	Winters et al.	1995	73 897 9th and 12th graders	Classroom	2-item screen	M9 = 77 M12 = 82	F9 = 50 F12 = 59	2.3 2.9	0.5 0.4
Minnesota	Stinchfield and Winters	1998	78 564 9th and 12th graders	Classroom	2-item screen	M9 = 70 M12 = 81	F9 = 38 F12 = 54	2.3 2.9	0.5 0.6
<i>Recent period (2000–2009)</i>									
Nevada	Volberg	2002	1004 13–17	Telephone	SOGS-RA DSM-IV-MR-J	66		1.9	
New York	Rainone and Gallati	2006	5844	Classroom	DSM-IV-MR-J	72		3.0	
Oregon	Volberg et al.	2007	1555 12–17	Telephone	SOGS-RA DSM-IV-MR-J	46		1.3	
National	Welte et al.	2005–2007	2,274 14–21	Telephone	SOGS-RA DIS	67		1.3	

Source: Adapted from Volberg et al. (2010).

MFM = multifactor method for scoring the SOGS-RA.

Table 2 Summary of adolescent prevalence surveys carried out in Canada

<i>Location</i>	<i>Author</i>	<i>Year Data Collected</i>	<i>Sample size and ages</i>	<i>Method</i>	<i>Measure</i>	<i>Gambling participation (past year)</i>	<i>Problem/pathological gambling</i>
<i>Early investigations (1988–1995)</i>							
Alberta	Wynne Resources	1995	972 12–17	Telephone	SOGS-R	67	7.9
Windsor, Ontario	Govoni et al.	1994	935 14–19	Classroom	SOGS-RA	90	8.1
Ontario	Insight Canada Research	1994	400 12–19	Not reported	SOGS-R	65	4
Quebec City, Quebec	Ladouceur and Mireault	1988	1612 14–19	Classroom	Pathological gambling signs index	65	3.6
Nova Scotia	Omnifacts Research	1993	300 13–17	Not reported	SOGS	60	3
<i>Recent period (1998–2009)</i>							
Canada	Huang and Boyer	2002	5666 15–24	Face-to-face	CPGI/PGSI	61	2.2
British Columbia	Gregg	2001/2	454 15–19	Classroom	SOGS-RA	90	5
Alberta	AADAC	2002	3394 Grades 7–12	Classroom	SOGS-RA	41	3.8
Alberta	AADAC	2005	3915 Grades 7–12	Classroom	SOGS-RA	63	3.6
Saskatchewan	Dickinson and Schissel	2003	1884 15–18	Classroom	Not assessed	81	Not assessed
Manitoba	Wiebe	1999	1000 12–17	Telephone	SOGS-RA	78	3
Manitoba	Lemaire	2002/3	410 15–20	Telephone	SOGS-RA	78	3
Manitoba	Mackay et al.	2004	6673 Grades 7–12	Classroom	DSM-IV-MR-J	35	2.3
Ontario	Adlaf et al.	2003	6616 Grades 7–12	Classroom	SOGS-RA	24	3.5
Quebec	Martin et al.	2006	4571 Grades 7–11	Classroom	DSM-IV-J	*French 35 Other 42 Total 36	French 2 Other 4 Total 2
Atlantic Provinces	Poulin	1998	13 549 Grades 7–12	Classroom	SOGS-RA	70	2.2

Source: Adapted from Volberg et al. (2010).

*French = French mother tongue, Other = Mother tongue other than French.

In Australia, there has also been no national study, only territory surveys (see Table 5). These have shown a past year adolescent problem gambling rate of 41–89% and a past year adolescent problem gambling rate of 1.0–4.4%. In New Zealand, the two national surveys have shown a past year adolescent gambling rate of 65–68% and past year adolescent gambling problem gambling prevalence rates of 3.8–13%.

From this comprehensive review, a number of conclusions were made. First, from a methodological perspective, the review showed that school-based surveys and telephone surveys were the primary modalities used to collect data in adolescent prevalence surveys. Second, a methodological trend of increasing sample sizes over time was noted. Early adolescent gambling surveys in the late 1980s and early 1990s tended to include samples of only a few hundred whereas most recent surveys are much bigger. For instance, the last four national prevalence surveys in Great Britain have had sample sizes of approximately 9000 or more. Third, it was

noted that the most widely used problem gambling instruments (DSM-IV-MR-J, SOGS-RA) are derived from adult problem gambling screens and may not be suited to assessing gambling-related problems in younger people. However, it was asserted that pending a better-validated problem gambling instrument for adolescents, these instruments are likely to continue to be viewed as the best approximations for the measurement of problem gambling among adolescents.

The review also made a number of other generalizations. Male adolescents are more likely than female adolescents to gamble, and more likely to experience problems, a finding that is well established in other reviews of the literature. However, there is no evidence that problem gambling among females indicates a more serious problem. It also appears that, while adolescents from certain ethnic groups are less likely to gamble than other adolescents (e.g., Native American and African American youth in North America, non-Francophone youth in Quebec, indigenous youth in Australia, and Pacific

Table 3 Summary of adolescent prevalence surveys carried out in Southern Europe

<i>Location</i>	<i>Author</i>	<i>Year data collected</i>	<i>Sample size and ages</i>	<i>Method</i>	<i>Measure</i>	<i>Gambling participation (past year)</i>	<i>Problem/pathological gambling</i>
Belgium	Kinable	2006	38 357 12–18	Classroom	Not assessed	42 (lifetime)	Not assessed
Estonia	Laansoo	2006	2005 15–74	Telephone	SOGS	75 (lifetime)	3.4 (lifetime)*
Germany**	Hurrelmann et al.	2003	5000 13–19	Not reported	DSM-IV-MR-J	62	3
Great Britain	Fisher and Balding	1996	3724 12–15	Classroom	DSM-IV-MR-J	15 (7-day lottery)	Not reported
Great Britain	Fisher	1997	9774 12–15	Classroom	DSM-IV-MR-J	19 (7-day fruit machines)	5.6
Great Britain	Ashworth et al.	2000	11 581 12–15	Classroom	DSM-IV-MR-J	70	4.9
Great Britain	MORI/IGRU	2006	8017 12–15	Classroom	DSM-IV-MR-J	54	3.5
Great Britain	Ipsos MORI	2009	8598 12–15	Classroom	DSM-IV-MR-J	21 (7-day all activities)	2.0***
Italy	Capitanucci et al.	2006	579 13–20	Classroom	SOGS-RA	Not reported	6
Lithuania**	Skokauskas et al.	2007	835 9–16	Classroom	DSM-IV-MR-J SOGS-RA	83 (lifetime)	4 5
Romania	Lupu et al.	2002	500 14–19	Classroom	GA-20	82 (lifetime)	7 (lifetime)
Slovakia**	Kotrc	2006	1142	Classroom	Not assessed	27.5 (lifetime)	Not assessed
Spain**	Becona et al.	2001	11–16 14–21	Classroom	DSM-IV-J SOGS-RA	Not reported	0.8 4.6

Source: Adapted from Volberg et al. (2010).

*Problem gambling prevalence for adolescents and adults combined;

**Used regional (not national) samples;

***Scoring requirement that all screener questions be answered was dropped in 2009.

Table 4 Summary of adolescent prevalence surveys carried out in the Nordic countries

<i>Location</i>	<i>Author</i>	<i>Year data collected</i>	<i>Sample size and ages</i>	<i>Method</i>	<i>Measure</i>	<i>Gambling participation (past year)</i>	<i>Problem/pathological gambling</i>
Denmark	Sørensen et al.	2007	3814 12–17	Telephone	Five-item NODS	51 (lifetime)	0.8
Finland	Ilkas and Aho	2006	5000 12–17	Telephone	SOGS-RA	52	2.3
Iceland	Ólason et al.	2004	3511 13–15	Classroom	DSM-IV-MR-J SOGS-RA	70	1.9 2.8
Iceland	Baldursdottir et al.	2005	1513 16–18	Classroom	DSM-IV-MR-J	62	3.0
Iceland	Kristjansdottir	2007	1537	Classroom	DSM-IV-MR-J	57	2.2
Norway	Johansson and Gøtestam	1999	3237 12–18	Telephone postal	10-item DSM-IV	82	1.8
Norway	Rossow and Hansen	2002	13 000 13–19	Classroom	Lie/Bet + Chasing	78	3.2
Norway	Rossow and Molde	2004	20 703 13–19	Classroom	SOGS-RA	74	2.5
Sweden	Rönnerberg et al.	1997	1000 15–17	Telephone postal	SOGS-R	76	0.9

Source: Adapted from Volberg et al. (2010).

Table 5 Summary of adolescent prevalence surveys carried out in Australasia

Location	Author	Year data collected	Sample size and ages	Method	Measure	Gambling participation (past year)	Problem/pathological gambling
Australian Capital Territory	Delfabbro, Lahn, and Grabosky	2003	926	Classroom	DSM-IV-J	70	4.4
South Australia	Delfabbro and Thrupp	2000–2001	505	Classroom	DSM-IV-J	62	3.5
South Australia	S. A. Dept for Community Services	2005	605	Telephone	DSM-IV-J	43	1.0
South Australia	Delfabbro et al.	2007	2669	Classroom	DSM-IV-J	56	2.4
Victoria	Moore and Ohtsuka	1997	1017	Classroom	10-item scaled SOGS	75 (lifetime)	3.1
Victoria	Moore and Ohtsuka	2001	710, 776 14–25	Classroom	10-item scaled SOGS	89 (lifetime)	3.8
Victoria	Jackson	1997	2788 13	Classroom	Not assessed	41	Not assessed
New Zealand	Sullivan	2001	547	Classroom	DSM-IV-J	65	13.0
New Zealand	Rossen	2008	2005	Classroom	DSM-IV-MR-J	68	3.8

Source: Adapted from Volberg et al. (2010).

Island youth in New Zealand), they are more likely to gamble regularly when they do gamble and to experience problems. However, there may be other confounding variables such as socioeconomic status. There are also other clear demographic patterns. For example, the most popular youth gambling activities tend to be private, peer-related activities such as card games and betting on sports. Older youth are more likely to engage in accessible forms of age-restricted gambling, such as lotteries. The one notable exception is in Great Britain where slot machines are legally available for adolescents to gamble on at seaside arcades and family leisure centers. Unlike most other countries, Great Britain's adolescent problem gamblers are most likely to be experiencing gambling problems associated with slot machines. Other common demographic characteristics are that youth problem gamblers are more likely to start gambling at a younger age and to have parents who gamble.

Other research has shown that young problem gamblers are also more likely to have begun gambling at an early age, have had a big win early on in their playing career, and to be from a lower social class. In addition to the risk factors based on personal characteristics, the social and physical environment in which young people gamble and the gambling activity also play a part. Research has indicated that the most addictive gambling activities to be those (such as slot machines) that involve high event frequencies, short interval between stake and payout, near miss opportunities, a combination of very high prizes and/or frequent winning of small prizes, and suspension of judgment.

Like other potentially addictive behaviors, problem gambling in adolescence causes the individual to engage in negative behaviors such as truanting in order to play the machines, stealing to fund machine playing, getting into trouble with teachers and/or parents over their machine playing, borrowing or the using of lunch money to play the machines, poor schoolwork, and in some cases, aggressive behavior. One study demonstrated that around 4% of all juvenile crime in one UK city was gambling-related based on over 1850 arrests in a 1-year period. Furthermore, gambling addicts also appear to display *bona fide* signs of addiction including withdrawal

effects, tolerance salience, mood modification, conflict, and relapse. Some young people gamble as a means of coping with everyday stresses and problems (avoidance) and as their gambling becomes more problematic so their problems, such as debt, increase and consequently their need to gamble also increases. This therefore creates a vicious circle whereby gambling behavior is experienced as both a problem and as a strategy for dealing with problems. It should also be noted that adolescent gambling is often part of a lifestyle that includes increased prevalence in many risky behaviors (such as smoking cigarettes, drinking alcohol, and taking illicit drugs).

Factors in Adolescent Gambling Addiction: A Biopsychosocial Approach

Adolescent gambling addiction has often been termed 'the hidden addiction.' This is because

1. there are no observable signs or symptoms like other addictions (e.g., alcoholism, heroin addiction, etc.);
2. money shortages and debts can be explained away with ease in a materialistic society;
3. adolescent gamblers do not believe they have a problem or wish to hide the fact;
4. adolescent gamblers are exceedingly plausible and become adept at lying to mask the truth; and
5. adolescent gambling may be only one of the several co-occurring excessive behaviors.

Addictions always result from an interaction and interplay between many factors, including the person's biological and/or genetic predisposition, their psychological constitution, their social environment, and the nature of the activity itself. Gambling is a multifaceted rather than a unitary phenomenon. Consequently, many factors may come into play in various ways and at different levels of analysis (e.g., biological, social, or psychological). Theories may be complementary rather than mutually exclusive, which suggests that limitations of individual theories might be overcome through the

combination of ideas from different perspectives. This has often been discussed before in terms of recommendations for an 'eclectic' approach to gambling or a distinction between proximal and distal influences upon gambling. However, for the most part, such discussions have been descriptive rather than analytical, and so far, few attempts have been made to explain why an adherence to singular perspectives is untenable. Central to the latest thinking is that no single level of analysis is considered sufficient to explain either the etiology or maintenance of gambling behavior. Moreover, this view asserts that all research is context-bound and should be analyzed from a combined, or biopsychosocial, perspective. Variations in the motivations and characteristics of gamblers and in gambling activities themselves mean that findings obtained in one context are unlikely to be relevant or valid in another.

Another factor central to understanding gambling behavior is the structure of gambling activities. It has been shown that gambling activities vary considerably in their structural characteristics such as the probability of winning, the amount of gambler involvement, the use of the near wins, the amount of skill that can be applied, the length of the interval between stake and outcome, and the magnitude of potential winnings. Structural variations are also observed within certain classes of activities such as slot machines, where differences in reinforcement frequency, colors, sound effects, and machines' features can influence the profitability and attractiveness of machines significantly. Each of these structural features may (and almost certainly does) have implications for gamblers' motivations and the potential 'addictiveness' of gambling activities.

Another vital structural characteristic of gambling is the continuity of the activity; namely, the length of the interval between stake and outcome. In nearly all studies, it has been found that continuous activities (e.g., racing, slot machines, casino games) with a more rapid play-rate are more likely to be associated with gambling problems. The ability to make repeated stakes in short time intervals increases the amount of money that can be lost and also increases the likelihood that gamblers will be unable to control spending. Such problems are rarely observed in noncontinuous activities, such as weekly or biweekly lotteries, in which gambling is undertaken less frequently and where outcomes are often unknown for days. Consequently, it is important to recognize that the overall social and economic impact of expansion of the gambling industry will be considerably greater if the expanded activities are continuous rather than noncontinuous. Other structural factors and dimensions (external to the person themselves) that have been reported in the general gambling literature include

- stake size (including issues around affordability, perceived value for money);
- event frequency (i.e., time gap between each gamble);
- amount of money lost in a given time period (important in chasing);
- prize structures (i.e., number and value of prizes);
- probability of winning (e.g., 1 in 14 million on a 6/49 lottery);
- size of jackpot (e.g., over £1 million on the lottery);
- skill and pseudo-skill elements (actual or perceived);
- 'near miss' opportunities (number of near winning situations);

- light and color effects (e.g., use of red lights on slot machines);
- sound effects (e.g., use of buzzers or musical tunes to indicate winning);
- social or asocial nature of the game (individual and/or group activity);
- accessibility (e.g., number of outlets, opening times, membership rules);
- location of gambling establishment (e.g., out of town, next to workplace, etc.);
- type of gambling establishment (e.g., betting shop, amusement arcade, etc.);
- amount and type of advertising (e.g., television commercials); and
- the rules of the game (i.e., easy or difficult to learn).

Each of these differences may have implications for an adolescent gambler's motivations and as a consequence the social impact of gambling. However, it must be noted that many of these gambling-inducing structural characteristics are dependent on individual factors such as biological/genetic predispositions and personality factors.

Other factors central to understanding gambling behavior are the situational characteristics of gambling activities. These are the factors that often facilitate and encourage people to gamble in the first place. Situational characteristics are primarily features of the environment (e.g., accessibility factors such as location of the gambling venue, the number of venues in a specified area, and possible membership requirements) but can also include internal features of the venue itself (décor, heating, lighting, color, background music, floor layout, refreshment facilities) or facilitating factors that may influence gambling in the first place (e.g., advertising, free travel and/or accommodation to the gambling venue, free bets or gambles on particular games) or influence continued gambling (e.g., the placing of a cash dispenser on the casino floor, free food and/or alcoholic drinks while gambling). These variables may be important in both the initial decision to gamble and the maintenance of the behavior. Although many of these situational characteristics are thought to influence vulnerable gamblers, there has been very little empirical research into these factors, and more research is needed before any definitive conclusions can be made about the direct or indirect influence on gambling behavior and whether vulnerable individuals are any more likely to be influenced by these particular types of marketing ploys.

One consequence of the recent upsurge in research into adolescent gambling is that we can now start to put together a 'risk factor model' of those individuals who might be at the most risk of developing addictive gambling tendencies. Based on the preceding overview and previous summaries of the empirical research literature, a number of clear risk factors in the development of problem adolescent gambling emerge. Adolescent problem gamblers are more likely to

- be male (16–25 years);
- have begun gambling at an early age (as young as 8 years of age);
- have had a big win earlier in their gambling careers;
- consistently chase losses;
- have begun gambling with their parents or alone;
- be depressed before gambling;

- be excited and aroused during gambling;
- be irrational (i.e., have erroneous perceptions) during gambling;
- have bad grades at school;
- engage in other addictive behaviors (smoking, drinking alcohol, illegal drug use);
- come from the lower social classes;
- have parents who have a gambling (or other addiction) problem;
- have a history of delinquency;
- have low self-esteem;
- have suffered abuse (physical, emotional, and/or sexual);
- steal money to fund their gambling; and
- truant from school to go gambling.

This list is not exhaustive but incorporates what is known empirically and anecdotally about adolescent problem gambling. Furthermore, it has been asserted that many of the risk factors implicated in adolescent problem gambling are very similar to the risk factors implicated in adolescent drug abuse (i.e., family history, low self-esteem, depression, history of abuse, etc.). As research into the area grows, new items to such a list will be added while factors, signs, and symptoms already on these lists will be adapted and modified. There is, of course, a problem with the identification of adolescent problem gamblers in that there is no observable sign or symptom like other addictions (e.g., alcoholism, heroin addiction, etc.). Although there have been some reports of a personality change in young gamblers, many parents may attribute the change to adolescence itself (i.e., evasive behavior, mood swings, etc., are commonly associated with adolescence). It is quite often the case that many parents do not even realize they have a problem until their son or daughter are in trouble with the police. There are a number of possible warning signs to look for, although individually, many of these signs could be put down to adolescence. However, if several of them apply to a child or adolescent, it could be that they will have a gambling problem. The signs include

- a sudden drop in the standard of schoolwork;
- going out every evening and being evasive about where they have been;
- personality changes such as becoming sullen, moody, or constantly on the defensive;
- money missing from home;
- selling expensive possessions and not being able to account for the money;
- loss of interest in activities they used to enjoy;
- lack of concentration;
- a 'couldn't care less' attitude; and
- not taking care of their appearance or hygiene.

However, many of these 'warning signs' are not necessarily unique to gambling addictions and can also be indicative of other addictions (e.g., alcohol and other drugs).

Adolescent Gambling on the Internet and Other Remote Media

Another critical concern regarding adolescent gambling is the recent explosion of Internet and mobile gambling although, as yet, little research has been done. Furthermore, it has been

argued that many of these new forms of gambling are likely to appeal to techno-savvy youth given the relative ease with which online gambling sites can be accessed. It has been noted that the distinction between gambling and video gaming is becoming ever more blurred and that gaming convergence is widespread.

A national Internet gambling prevalence survey of 2098 people in the United Kingdom in 2001 included data from 119 adolescents (aged 15–19 years). Although at that time no teenagers reported gambling on the Internet, 4% of teenage respondents said they would like to try online gambling. Another study in Canada in 2002 suggested at least a quarter of young people with serious gambling problems may be gambling on the Internet using 'free play' sites (for 'practice' and 'demonstration' purposes). It could be the case that the Internet presents a particular danger for those who already have gambling problems as such findings have been found in nationally representative adult surveys, and as shown earlier in this article, adolescents are commonly thought to be more susceptible and vulnerable in terms of developing a gambling problem than adults.

To date, there have been only a handful of studies examining Internet gambling among adolescents. All of these studies show that adolescents can (and do) gamble on the Internet. The two biggest studies have both been carried out in the United Kingdom. In 2007, Mark Griffiths and Richard Wood surveyed 8017 young people aged between 12 and 15 years of age about their Internet gambling behavior. Their results showed that approximately one in twelve young people aged 12–15 years (8%) said they had played a National Lottery game on the Internet. Boys were more likely than girls to say they have played National Lottery games on the Internet (10% vs. 6%), as were young people who were Asian and black. Not surprisingly, young people identified as 'problem gamblers' were more likely than 'social gamblers' to have played a National Lottery game on the Internet (37% compared with 9%). Problem gamblers were more likely to have played every game in the past week, compared with social gamblers who were less likely to remember what games they had played in the last week. Young people with parents who approve of young people gambling were more likely to have played online instant win games for money, Lotto, or other draw games (35% compared with 19%; 40% compared with 15%; 22% compared with 6%, respectively). The results suggest parental consent or help in gaining access to the games via the Internet.

When asked which of a series of statements best describes how they played National Lottery games on the Internet, nearly three in ten adolescents who played online reported playing free games (29%), one in six reported that the system let them register (18%), slightly fewer played along with their parents (16%), and one in ten used their parent's online National Lottery account either with their permission (10%) or without it (7%). However, it should be noted that a third of online players said they 'couldn't remember' (35%). Overall, among all young people (and not just players), 2% played National Lottery games online with their parents or with their permission and 2% have played independently or without their parents. Those who have played independently are most likely to have played free games, with just 0.3% of

young people having played National Lottery games on their own for money.

More recently in 2009, Ipsos MORI surveyed 8598 pupils aged 11–15 years. Overall, 1% reported gambling on the Internet for money in the 7 days prior to the survey. Children were also asked about ‘gambling-like experiences’ which included play-for free or practice modes of real gambling sites and gambling-type games for play money or points on social networking sites. Just over a quarter of adolescents had played in ‘money-free mode’ in the week preceding the survey, with opportunities on the social networking sites four or five times more popular than those presented on real gambling sites. Using statistical modeling to further examine the same data, Secondary analysis carried out on these data showed that gambling in money-free mode was the single most important predictor of whether the child had gambled for money and one of the most important predictors of children’s problem gambling. However, it should be noted that this relationship is correlational and not causal. The possibility and extent to which money-free gambling is responsible for real gambling participation and gambling-related risk and harm could only be confirmed using longitudinal data.

Gambling via social networking sites is also an increasing cause for concern given the speed at which social networking sites have spread. Despite the fact that the minimum age for most major social networking sites is usually 13 years (and 14 years on *MySpace*), a 2008 study by the Office of Communications in the United Kingdom reported that just over a quarter (27%) of 8–11-year-olds who are aware of social networking sites said that they had a profile on a social networking site. The most popular social networking site used by children was *Bebo* (63%). Content-generated risks from this new leisure activity have not been investigated in any detail, yet young people using these sites are able to gain access to gambling.

Some researchers have claimed that the potential of social networking sites to ‘normalize’ gambling behaviors may change social understandings of the role of gambling among young people. For example, while socially responsible gambling emphasizes that money spent gambling may not offer a return other than the pleasure gained from the game, the social networking utilities can present gambling as a viable route for the acquisition of scarce virtual goods. According to some recent research, there were 25 Poker applications on *Bebo* (and over 500 separate poker groups) and in excess of 100 poker applications on *Facebook* (and over 1000 separate poker groups). These poker sites featured some with real prizes, some with cash-play options, and all easily downloadable by those under 18 years along with many free trial games. The largest of these poker groups had over several thousand members and in one group surveyed, 15% of those in the group declared they were under the age of 18 years. Furthermore, gambling applications typically contain sidebar advertisements and hyperlinks to real gambling sites.

A type of pseudo-gambling among ‘*Fluff Friends*’ that has over 100 000 active users per month has also been reported. In this social networking forum, users (typically young girls) create ‘*Fluff Art*’. To do this, they have to earn ‘*munny*’ (sic) – a type of virtual money through pet racing. Pet racing costs 1-point per race and winnings can be up to 4000 points.

Clearly, there is no money changing hands but young children are learning the mechanics of gambling and it has been asserted there are serious questions about whether gambling with virtual money encourages positive attitudes toward gambling in young people. For instance, does gambling with virtual money lead to an increased prevalence of actual gambling? She also asks to what extent are gambling-related groups on social networking sites being used by those under 18 years and whether membership of such a groups facilitates access to commercial gambling sites? It also seems only natural for youth to question whether they should game on Internet sites if they were winning ‘play money.’

Conclusion

Adolescent gambling, and more specifically adolescent problem gambling, is a cause for concern with a small but significant minority of adolescents having a severe gambling problem. Furthermore, the prevalence of problem gambling in adolescents tends to be approximately three to five times higher than that in adults (depending upon the jurisdiction and the opportunities for adolescents to gamble). This suggests that many adolescents stop gambling when they reach adulthood, although there have been no longitudinal studies to date. Retrospective reports in the literature suggest that many adolescent gamblers ‘mature out’ of gambling and that there are some events in the lives’ of older adolescent that may be triggers in spontaneous remission (such as getting a job, getting married, and birth of a child). However, these are anecdotal and further research is needed to help identify protective factors for problem gambling.

Young peoples’ access to the leisure and cultural facilities needs to be researched to see whether this normalizes gambling as a social activity. Are young people attracted to gambling venues such as arcades in order to gamble, or are they hanging out there because it provides a warm and dry place for them to meet their friends away from home? Although there are clear gaps in the literature, there are many studies all showing that a small but significant minority of children and adolescents have a gambling problem. However, there is a lack of evidence of how current social support systems assess and respond to young people’s problem gambling behaviors. Further research is also needed into the adequacy of treatment and support for young people who are problem gamblers as very few adolescent problem gamblers turn up for treatment. There are very few published papers on the treatment of problem gambling in adolescents, although most practitioners note that the treatments used in adult problem gambling are appropriate for adolescents (e.g., psychotherapy, cognitive-behavior treatment, self-help groups, pharmacotherapy, etc.).

Based on the available literature, it may be important to distinguish between the different types of money-free gambling being made available – namely, social networking modes and ‘demo’ or ‘free play’ modes. Initial considerations suggest that these may be different both in nature and in impact. For example, players gambling in social networking modes may experience a different type and level of reinforcement than those gambling in ‘demo’ mode. Furthermore, on some social networking sites, the accumulation of ‘play money’ or

'points' may have implications for buying virtual goods or services or being eligible for certain privileges. This may increase the value and meaning of the gambling event to the individual. Second, when considering the 'flow' and intention of individuals accessing such sites, it could be argued that individuals accessing money free gambling through social networking sites may be more likely to be induced or persuaded to play given that these web-site visitors' primary intention may have been social interaction (i.e., the primary function of the website) as opposed to those playing in 'demo' mode where gambling is the primary function of the website. Interestingly, four or five times more children reporting money-free gambling on social networking sites compared to 'demo' or 'free play' modes on gambling websites. It is suggested that nature and impact of various forms of money-free gambling should be the subject of further research and empirical investigation.

The rise and challenges of Internet gambling cannot be seen in isolation particularly as there is ever-increasing multi-media integration between the Internet, mobile phones, and interactive television. Furthermore, young people appear to be very proficient in using and accessing these media and are likely to be increasingly exposed to remote gambling opportunities. These young people will therefore require education and guidance to enable them to cope with the challenges of convenience gambling in all its guises. The same information also needs to be made aware to parents, teachers, health professionals, and other practitioners.

See also: Addictions in Adolescence; Alcohol Use; Impulsivity and Adolescence; Internet and Other Interactive Media; Leisure; Tobacco use.

Further Reading

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Relevant Websites

The *Responsibility in Gambling Trust (RiGT)* commissioned *Tacade* and the *International Gaming Research Unit* to produce education materials on youth gambling to be used in schools and other youth education settings. This led to the publication of two sets of comprehensive resources (*You Bet!* and *Just Another Game?*).

You Bet! Gambling Educational Materials For Young People Aged 11–16 Years. pp. 84–101. Tacade: Manchester (ISBN: 1-902-469-194).

Just Another Game? Gambling Educational Materials For Young People Aged 13–19 Years. pp. 80–83. Tacade: Manchester (ISBN 1-902469-208).

Both of these resources can be obtained free of charge via the Tacade website – <http://www.tacade.com/>.