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eGambling

THE ELECTRONIC JOURNAL OF GAMBLING ISSUES



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Issue 9, October 2003
From the editor

Searching the Archive in the *Electronic Journal of Gambling Issues: eGambling*

This issue of the *EJGI* inaugurates a Google search engine within our [Archive](#) section. Now readers can use their own search terms to find current and back articles on topics of their choice. We thank Alan Tang, our Webmaster, for this capability. If you are familiar with such searches, you may wish to go right now to test it at www.camh.net/egambling/archive/index.html. Good searching.

Here's an example for beginners of what is possible. Let's say that I was at a conference and heard of a valuable presentation by a researcher named Rina who spoke about her programme with youth who gamble. I want to learn more about her research and I wonder if she has been published in the *EJGI*. Can I find her even though I don't know her last name?

To check this possibility, I go to the Archive and scroll down past the list of back issues to the Google search engine. In the dialogue box ("Type in words to search"), I key in the two words: "youth" "Rina" (but without quotation marks) with no other terms and then click on Search. In all, 31 references for Rina Gupta (co-director of the Youth Gambling Institute, Montreal, Canada) appear, from the Feature article that she co-authored to her name on the list of peer reviewers, all in both HTML and PDF versions.

For technical help in searching, readers can click on the underlined link "Help with Searching" (or here at http://search.camh.net/user_help.html) for a list of topics and how-to notes, from simple to more complex.

Another option allows readers to search the archives of the Centre for Addiction and Mental Health for information that may be related or unrelated to gambling.

We hope that you will treat the *EJGI* Archive as a growing resource for your gambling information needs.

In this issue

Our feature article ("[Meta-analysis: A 12-step program](#)" by David Streiner) has the goal of making meta-analyses more understandable. With more meta-analyses appearing that assess the effectiveness of different clinical approaches, it seems important to understand what underlies a meta-analysis, that may, for example, rank highly the effectiveness of a treatment option that you may not think well of. It is written both for those disinterested in statistics and those who wish to understand their role in this approach.

The research articles in this issue include the topics of over-reporting wins ("[Why do gamblers over report wins: An examination of social factors](#)" by John Jamieson, Chris Mushquash and Dwight Mazmanian), relapse from recovery ("[Quitting again: Motivations and strategies for terminating gambling relapses](#)" by Kylie L. Thygesen and David C. Hodgins) and Gamblers Anonymous ("[Gamblers Anonymous: A review of the literature](#)" by Peter Ferentzy and Wayne Skinner). We also invite you to read our opinion articles and book reviews.

Phil Lange, editor
The Electronic Journal of Gambling Issues: eGambling
Centre for Addiction and Mental Health
33 Russell Street
Toronto, Ontario M5S 2S1 Canada
E-mail: Phil_Lange@camh.net
Phone: (416)-535-8501 ext.6077
Fax: (416) 595-6399

Disclaimer: The opinions expressed in this journal do not necessarily reflect those of the Centre for Addiction and Mental Health.

Statement of purpose

The *Electronic Journal of Gambling Issues: eGambling (EJGI)* offers an Internet-based forum for developments in gambling-related research, policy and treatment as well as personal accounts about gambling and gambling behaviour. Through publishing peer-reviewed articles about gambling as a social phenomenon and the prevention and treatment of gambling problems, it is our aim is to help make sense of how gambling affects us all.

The *EJGI* is published by the [Centre for Addiction and Mental Health](#) and is fully funded by the Ontario Substance Abuse Bureau of the Ministry of Health and Long-Term Care. We welcome manuscripts submitted by researchers and clinicians, people involved in gambling as players, and family and friends of gamblers.

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Martin Zack, *Centre for Addiction and Mental Health, Toronto, Ontario, Canada*

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Graphic Designer: Mara Korkola, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

HTML Markup & Programming: Alan Tang, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

Copyeditors

Kelly Lamorie and **Megan MacDonald**, *double space Editorial Services, Toronto, Ontario, Canada*

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Editorial Contact: phil_lange@camh.net

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[This article prints out to about 23 pages]

Meta-analysis: A 12-step program



*By David L. Streiner, PhD, CPsych.
Baycrest Centre for Geriatric Care
Toronto, Ontario, Canada
E-mail: dstreiner@klaru-baycrest.on.ca*

Abstract

Meta-analysis is a technique for combining the results of many studies in a rigorous and systematic manner, to allow us to better assess prevalence rates for different types of gambling and determine which interventions have the best evidence regarding their effectiveness and efficacy. Meta-analysis consists of (a) a comprehensive search for all available evidence; (b) the use of applying explicit criteria for determining which articles to include; (c) determination of an effect size for each study; and (d) the pooling of effect sizes across studies to end up with a global estimate of the prevalence or the effectiveness of a treatment. This paper begins with a discussion of why meta-analyses are useful, followed by a 12-step program for conducting a meta-analysis. This program can be used both by

people planning to do such an analysis, as well as by readers of a meta-analysis, to evaluate how well it was carried out.

The purpose of this article is to describe a technique called meta-analysis to people engaged in counselling those with gambling problems, to enable them to either read meta-analyses with greater understanding or perhaps even conduct one on their own. The value in understanding the bases of meta-analyses comes with being able to read one and assess if it has sound methodology. We can expect more treatment outcomes to be assessed through meta-analyses, and it serves clinicians well to understand how such an analysis was completed, not simply to accept it on faith or the author's reputation. My aim is to make this paper relevant for the broadest range of readers: those with research-oriented PhDs as well as community college graduates. For those who are comfortable with statistics, the relevant formulae are provided. However, readers who wish to gain mainly a conceptual understanding of meta-analysis without going into the details can easily skip the technical parts, which are set off in boxes to make them easier to avoid.

Let's start off with a tongue-in-cheek multiple-choice question.

Which of the following options reflects current thinking about meta-analysis?

a.

Meta-analysis is a rigorous method for objectively combining the results of many different studies to arrive at a better estimate of truth.

b.

Meta-analysis is the greatest boon to humanity since the invention of the double bed.

c.

Meta-analysis is a way of combining the results of many inadequate studies to arrive at an inadequate answer.

d.

Meta-analysis is the new growth industry of social science and biomedical research, allowing people to build up their C.V.

e.

All of the above.

If you chose option (e), you'd be a winner. Meta-analyses have indeed swept the worlds of psychology and medicine, and this has even led to the creation of a large international group (the Cochrane Collaboration) devoted to their

production and dissemination. In 1991, Chalmers (1991) found 150 meta-analyses of randomized controlled trials (RCTs). Using MEDLINE with the search term “meta-analysis,” I identified 609 articles published in 1996 (the first year for which that search term could be used); and by 2001, there were more than twice this number (1,251), with no sign that this trend is slowing down.

On the other hand, there are some people who feel that, with meta-analysis, “bad science drives out good by weight of numbers” (Wachter, 1988, p. 1407); that is, summing the findings of many poorly done studies with the results of a few good ones with opposite conclusions will overwhelm the latter. In fact, there are sometimes discrepancies between the findings of meta-analyses and those of large clinical trials (Furukawa, Streiner & Hori, 2000; Ioannidis, Cappelleri & Lau, 1998), and some researchers have advocated a more qualitative synthesis of “best evidence” rather than a quantitative summation of all evidence (Slavin, 1986).

So, what is all this debate about? In this article, I will first outline the rationale for using meta-analysis. Then, as the readers of this journal are no doubt familiar with treatment programs designed for people with addictions, I will give my own 12-step program for dealing with meta-analyses. This program can be used in two ways: for people contemplating doing a meta-analysis, it can serve as a how-to guide, to what they should do, in what order, and with references to resources for more advanced information; for readers who do not have training in statistics, as a quality control checklist, to see if an author took adequate care to ensure results that are relatively unbiased, fair and accurate. Readers in the latter category can safely skip over the statistics and equations, which are set off in boxes (unless they are masochistically inclined). Many of the examples come from health literature (and outside gambling studies) because that is where most of the current literature resides and where some crucial findings originate. However, the applicability of meta-analyses from other areas to studies within the field of gambling should be readily apparent.

Although there have been meta-analyses of diagnostic instruments (Hasselblad & Hedges, 1995), and even one on the genetics of gambling (Walters, 2001), the vast majority of meta-analyses address issues of the effectiveness and efficacy of treatment interventions. Consequently, this article will focus mainly on this type of study, although the principles can be applied to meta-analyses of any kind.

The rationale for meta-analysis

No one who has tried to keep abreast of advances in his or her own field needs to be convinced of the growth of published articles. Busy clinicians, and even researchers, have always needed some way of keeping up-to-date without having to find the original articles, get them from a library and read them. In large

measure, this role was (and continues to be) filled by textbooks and chapters in annual reviews. This presents two problems. First, the publication lag between starting a chapter and finally seeing it in print can be two or three years, during which time the field has moved on. A more serious problem, though, is the potential for bias to creep (or storm) in. There is no guarantee that the authors of the review chapter have tried to locate all of the relevant articles, much less those that do not agree with their pre-existing beliefs or prejudices. Furthermore, they may deploy their methodological rigour differentially, reserving their harshest criticism for articles they disagree with, and passing over faults in those supportive of their position. For example, Munsinger (1975) and Kamin (1978) reviewed the same articles about the relative effects of genetics and environment on intelligence, but arrived at diametrically opposite conclusions; conclusions that not surprisingly supported their own views. In the area of gambling, two non-systematic reviews of naltrexone similarly came to opposite conclusions regarding its effectiveness (Hollander, Buchalter & DeCaria, 2000; Modesto-Lowe & Van Kirk, 2002).

The first step in addressing some of the faults of review chapters or papers is to do a systematic search of the literature, to maximize the chances that all of the relevant articles will be found (although problems with this are outlined below in Step 3), and spell it out in sufficient detail that the reader could replicate the search and end up with the same articles. The issue then becomes what to do with all of the findings. The simplest solution is simply "vote counting"; how many articles come to one conclusion and how many the opposite. Yet again, however, two problems rear their heads. The first is what to do when the vote is close. For example, of 27 articles that reported the relationship between obesity and socioeconomic status in men, 12 found a positive correlation, 12 found a negative one and three reported no relationship (Sobal & Stunkard, 1989). The second problem is that vote counting does not take the quality of the study into account. A study with a correlation of +0.2 is balanced by one with a correlation of -0.9; and one with a sample size of 50 given the same weight as one with 10 times the number of subjects.

The solution is to add a further step to a systematic review, and that is to combine the results in a way that takes the magnitude of the findings, the sample size and the quality of the research into account. This is what Smith and Glass (1977) have called "meta-analysis." So, a meta-analysis consists of

-
- a comprehensive search for all applicable articles;
-
- explicit and reliable criteria for selecting which articles to include;
-

derivation of a measure of the magnitude of the effect of the intervention;
and



a method for combining the results of all of the studies.

Step 1. Defining the question

It may seem that defining the question to be addressed by the meta-analysis is a simple and straightforward task. As with most things in life, if it looks easy and problem-free, it's a sure bet that there are major problems ahead, and this is no exception. A question like, "What treatment programs work for problem gambling?" is too broad to yield meaningful conclusions. It will result in trying to combine studies looking at the many different types of gambling (e.g. betting on horse races, using slot machines, playing cards, lotteries, etc.) with many different populations (people who enter therapy on their own initiative as opposed to those who are ordered into therapy by spouses or the courts; men versus women; people who have been gambling for years versus those who have just started; people in a stable relationship with a non-gambler versus those whose marriage ended in divorce because of the gambling versus those who have never married; "action" versus "escape" gamblers; and so forth). It is quite possible that treatments that work for one type of gambling or with one group of people may not work for others. If the results of these different studies are combined, one of two misleading results may be drawn. First, unsuccessful studies may wash out the results of successful ones, so that we erroneously conclude that no intervention is successful. Second, the opposite effect may occur, where we reach the global conclusion that all the treatments work for all people, whereas in reality only certain ones may be effective and only for some types of gambling or some groups of people.

The more focussed the question, the more useful and more accurate the results of the meta-analysis. So, the question should be phrased more like, "How effective is treatment A for gambling problem B with this specific group of people?" There is a downside to being too specific (this is the "So what else is new?" effect). Once we've done the search and applied the inclusion and exclusion criteria (steps that will be explained later), we may find that there are no articles that address the question. At this point, we will have to broaden one or more of the parts of the question (e.g. by including different types of gambling) and repeat the steps. It may be necessary to do this a few times, depending on how many articles exist in the literature and their quality. If there are many, high quality interventions with different groups of gamblers, then we may end up with a highly focussed meta-analysis. Conversely, if most of the reports do not have control groups, or consist of self-selected, highly motivated people, then we may have to keep the question broad to get any meaningful results.

In Step 11 of our program, we will examine some ways of teasing apart what is

successful from what is not when we do have a heterogeneous mix of studies.

Step 2. Detailing the selection criteria

Once the question has been defined, prepare a checklist so that the criteria can be applied in a uniform fashion. The list need not be long, but should include all of the reasons for accepting or rejecting articles. For example, if the question reads, "Is cognitive behavioural therapy (CBT) effective for adults with a problem with electronic gambling machines (EGMs)?" (EGMs include video lottery terminals, slot machines, poker and video poker machines), and we want to look only at RCTs, then the checklist can be as simple as the one shown in Table 1.

Table 1
Sample of a article selection checklist

RCT:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	⇒ Reject
At least one CBT group:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	⇒ Reject
Adults:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	⇒ Reject
Identifiable VDT group:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	⇒ Reject

The reason for the phrases "At least one CBT group" and "Identifiable EGM group" in the checklist is that we want to include articles that may also involve other types of therapy or other forms of gambling, as long as the results allow us to look at the specific groups of interest. That is, if a study used people with various forms of problem gambling, but the results were reported separately for each type, or the author was willing to provide us with the necessary data, then we would include that article. On the other hand, if the results were reported with all types of gambling combined and we were unable to gain access to the raw data, then we would reject the study.

Step 3. Doing the search

The next step is to actually find the articles. Computerized databases, such as MEDLINE, PsycINFO, EMBASE, CINAHL and the like have made our lives infinitely easier in this regard. However, we should not be lulled into thinking that, because we do a computerized search, all *or even most of* the relevant articles will be identified. A number of studies have found that even small changes in the search strategy result in very different sets of articles being retrieved (Haynes et

al., 1985); and that even competently done searches may find no more than 30% of the existing papers (Dickersin, Hewitt, Mutch, Chalmers & Chalmers, 1985). Although MEDLINE has definitely improved since these articles were done, especially by adding the term "RCT" to the MeSH vocabulary and reclassifying nearly 100,000 trials it hadn't originally labelled as RCTs (Lefebvre & Clarke, 2001), the problem still remains that many articles will be missed. This means that other strategies must be used in addition to searching the computerized databases.

Perhaps the easiest, most fruitful method is to look through the reference lists of the articles that have been found, to see if they have identified studies you may have missed. This is then supplemented by hand-searching the five to 10 most relevant journals, such as the *Journal of Gambling Studies*, *Addictive Behaviours*, *Addictions* and *International Journal of the Addictions* from the gambling side; and *Behaviour Research and Therapy*, *Journal of Clinical and Consulting Psychology*, *Behavior Modification*, *Archives of General Psychiatry*, *American Journal of Psychiatry* and *British Journal of Psychiatry* from the treatment end.

Within the past few years, three other resources have been developed that are extremely useful. One is the Cochrane Database of Systematic Reviews (CDSR), which, as its name implies, is an on-line set of meta-analyses. There are a number of advantages to this database. The main advantage is that someone has already done the work for you (although this may deprive you of a publication if you had your heart set on doing one yourself). Second, strict methodological criteria have been used in the selection of the primary articles, so you can be sure that all of the articles in the review have met fairly exacting standards.

The downsides are, first, that the reviews are limited, for the most part, to RCTs of interventions; few reviews of diagnosis or clinical course are present. Second, the CDSR is a strictly volunteer effort, so a review of a particular topic exists only if someone had an interest in that area. No one is overseeing the entire effort and identifying reviews that should be done, so it's quite possible that the topic you want may not be present. Third, the vast majority of reviews come from the areas of medicine and psychology; relatively few are from the field of gambling. Indeed, a search for meta-analyses of treatments for pathological gambling turned up only one citation, that of Oakley-Browne, Adams and Mobberley (2001). Finally, "strict methodological criteria have been used in the selection of the primary articles, so you can be sure that all of the articles in the review have met fairly exacting standards." If this sounds exactly like one of the advantages, that's because it is. Many reviews start off by identifying 50 to 100 potential articles, but after the methodology filters have been applied, only one article remains. While this will undoubtedly be a very well designed and executed study, it is likely that there are many other studies that have been excluded but may still contain useful information. That is, the criteria may be *too* strict in some cases,

especially for those of us who are not true believers that RCTs are the only road to truth and beauty.

The second Cochrane database that may be extremely useful is DARE, the Database of Abstracts of Reviews of Effectiveness. These are structured abstracts of excellent reviews of treatment effectiveness, which have the same advantages and disadvantages as the CSDR. Finally, there is the Cochrane Controlled Trials Register (CCTR), which is a listing of RCTs that has been compiled by the Cochrane collaborators. As of June 2002, the CCTR contains over 300,000 trials, including many RCTs that have not yet been combined into systematic reviews.

Finally, an excellent source is Dissertation Abstracts. Graduate students are, for the most part, far more obsessive than we are, and it's quite possible they have located some published articles that we missed. So, it's often worthwhile to get a copy of the dissertation and scan the reference list.

Unfortunately, these search strategies cover only published articles. The problem is that there is a "publication bias" (Begg & Berlin, 1988; Cooper, DeNeve & Charlton, 1997; Gilbody, Song, Eastwood & Sutton, 2000; Marshall et al., 2000), in that it is much easier to get articles with significant results accepted by editors than those that fail to find significance (we will discuss this further in Step 8). The difficulty is how to find this "grey literature" of unpublished results. One strategy is to write to authors and ask if they have studies sitting in file drawers that haven't seen the light of day. This is most useful if there are not too many researchers in the area, and most are known to you. It will miss people who may have done a few studies, failed to get them published, and moved on to more rewarding fields. Proceedings of meetings are another source of unpublished material. Abstracts from some meetings are sometimes published by a journal, especially if an organization sponsors both the meeting and the journal; and databases such as PsycINFO are starting to include some proceedings. Finally, for studies of medications, the reviewers can write to the drug manufacturers that may have sponsored some trials.

Step 4. Selecting the articles

This step consists of applying the selection criteria devised in Step 2 to the articles found in Step 3. The important point of this step is to avoid any suspicion that articles were rejected because they failed to show what the reviewer wanted, rather than not meeting the criteria. The best way to ensure this is to have two or more independent reviewers evaluate each article; ideally, one of the reviewers doesn't even know the question that's being asked, just the criteria. It's a good idea for the reviewers to start off by rating about 10 or so articles that definitely would not be included in the meta-analysis, such as those looking at a different type of gambling or a different population than those

targeted by the review. Any disagreements should be discussed to determine why they occurred, and to clear up any ambiguities in interpreting the criteria. This should be repeated until their reliability is over 90%. At this point, the reviewers can turn their attention to the articles that may be included in the meta-analysis.

If more than 50 articles were located, though, it may be too onerous a task for two people to review each study. In this case, 10 to 20 articles can be randomly selected for both reviewers to look at. If their agreement is high, then it's fairly safe to divide the remaining articles between them, thus reducing the workload. The authors should report the level of agreement for the articles evaluated in common (likely using Cohen's kappa; Norman & Streiner, 2000, pp. 96-97) and how discrepancies were resolved.

There is one other point to bear in mind in selecting articles. Some authors feel that if they've gone to all the trouble to do a study, the world should know of their findings, over and over again. Unfortunately, it's not unusual to find the same study in different journals (with minor modifications to slip under the copyright rules). Another ploy is to publish with, say, 50 subjects, and then publish again after the sample size has grown to 75. A third tactic, used in multi-centre trials, is for each study centre to publish its own results, in addition to one paper giving the global results. If you suspect that this is the case, use only the last publication, or the one that has the findings for all of the centres; otherwise, the study will have a disproportionate weight (and the authors will have been rewarded for their dubious tactics).

Step 5. Appraising the articles

Step 4 addressed the minimal criteria for an article to be included in the meta-analysis. However, there are studies and then there are studies. In other words, not all research is created equal. A study can be flawed in many ways, and allow biases to creep in. A useful framework was presented by Cook and Campbell (1979), who differentiate between the internal and external validity of a study. Internal validity refers to how well the study itself was conducted, and the degree to which we can believe the findings; external validity relates to the ability to generalize the results from the study sample to the population at large. Issues that pertain to the internal consistency of a study cover areas such as the number of people who drop out before the end, the adequacy of the outcome measures, how well the treatment and control groups were matched at the beginning, the fidelity with which the intervention was carried out, blinding of the raters and the proper analysis of the data. When we look at external validity, we are concerned primarily with issues of subject selection and reproducibility of the treatment. For example, were the participants self-defined gamblers or were diagnostic criteria applied; were people with co-morbid disorders screened out or entered into the trial; were they primarily community dwellers or a sample of convenience of university psychology students? As regards the intervention, was

a manual used so that all therapists followed the same protocol; were sessions videotaped to ensure adherence to treatment guidelines; and most importantly, was it an intervention that could easily be applied by practitioners in the field? Unfortunately, in many instances, there is a trade-off between internal and external validity, so that the better the design, the less the study resembles what is actually done in the real world (Streiner, 2002). The reviewers have to decide at what point violations of internal and external validity jeopardize the study.

Over the years, a number of checklists have been developed that allow people to evaluate the design and execution of a study, although they are almost all restricted to RCTs (see Moher et al. (1995) for a good review; and Jüni, Altman & Egger (2001) for a critique of the scales). Perhaps the most widely used are those of Jadad et al. (1996) and Chalmers et al. (1981). Scales such as these can be used in two ways: to set a minimum criterion for a study to be included in the meta-analysis, and to assign a score to each study to reflect its methodological adequacy. In Step 11, we will see how we can use this score to determine if the results of studies are influenced by research design issues. If the Jadad or similar scales are used, the reviewers should independently rate the same 10 to 20 articles and the reliability should be reported using an intra-class correlation (Streiner & Norman, 2003).

Step 6. Abstracting the results

Key elements of each study now have to be abstracted from the articles and entered into a spreadsheet, or a program specifically designed to do meta-analyses; a review of available programs is in Stern, Egger and Sutton (2001). What should be abstracted? At an absolute minimum, it would be the data necessary to calculate effect sizes (described in Step 7). First, this would include the final sample size in each group (that is, the initial sample size minus those who dropped out, were lost to follow-up, or died). Second, if the outcome is measured on a continuum (e.g. the South Oaks Gambling Screen (SOGS); Lesieur & Blume, 1987), then the mean score and standard deviation (SD) for each group at the end of treatment is required; if the outcome is dichotomous (e.g. have or have not betted within the last 12 months), then we need the numbers in each category. These criteria are so minimal that you would expect every published article to meet them. However, as an example of the fatuousness of this belief, in preparing a meta-analysis of anti-depressants (Joffe, Sokolov & Streiner, 1996), we found that only 9 of 69 (13.0%) of articles reported even these elements (Streiner & Joffe, 1998). In many cases, we had to photo-enlarge graphs and estimate mean values.

One decision that should be made before the articles are abstracted is which outcome measure to use when two or more are reported. It isn't kosher to use more than one outcome result (although there are exceptions that we'll discuss in a moment), because that would result in studies contributing more to the overall findings simply because they used more measures. There are two

options. The first is to pool all of the outcomes into one measure: how to do this is discussed by Rosenthal and Rubin (1986). The second, more common method is to select one outcome. For example, in our meta-analysis of anti-depressants (Joffe et al., 1996), we decided *a priori* that, if both were given, we would select objective measures over subjective; and for the possible objective indices, we devised a hierarchy of which scales would be preferred over others. The exception to the one study-one outcome rule is when the meta-analysis itself is addressing a number of outcomes. For example, a meta-analysis of CBT versus drug therapy for escape gamblers may look at effectiveness, measured by how many times the person has gambled within a six-month period, and acceptability of the treatments, evidenced by the drop-out rate. Within each outcome area, though, only one measure per study should be used.

What else to abstract depends on what else you think may influence the magnitude of the findings from one study to the next. For example, if the meta-analysis is focussing on drug treatments for people with gambling problems, it may be worthwhile to code the type of medication and the average dose. A meta-analysis of CBT may code the average number of sessions, whether the therapists were professionals or students, whether there was a treatment manual they had to follow, and so forth. If you believe that the treatment is changing over time (hopefully, improving), then the date of publication would be a variable of interest. Finally, if a methodology checklist was used, its score should be recorded for each study.

Step 7. Calculating effect sizes

One major problem in combining various studies is that they often use different outcome measures. Some may look at the number of times a person has gambled in a six-month period, others may use one year; some report frequency of gambling, others focus on the amount of money wagered. Yet other studies may rely on scores on a questionnaire, such as the SOGS. The issue is to find a common yardstick, so that the results are all reported using the same metric. For therapy trials, the most commonly used measure is the effect size (ES).

Effect size

ES comes in two main flavours: effect size for continuous measures (e.g. SOGS scores ranging from 0 through 22) and for dichotomous ones (e.g. treatment success or treatment failure). The general form for continuous measures is

$$ES = \frac{\bar{X}_T - \bar{X}_C}{SD} \quad [1]$$

where \bar{X}_T is the mean for the treatment group; \bar{X}_C that of the control group; and SD is the standard deviation. When calculated in this way, the ES expresses the results in standard deviation units. For example, if the outcome in one study was time since the person last gambled, and its SD was four months, then a two-month difference between the group means would yield an ES of 0.5. (i.e. half the standard deviation) A different study could have used an outcome of the amount gambled, with an SD of \$2,000. If the group means differed by \$500, then that would be equivalent to an ES of 0.25. In this way, these two studies, using very different outcomes, can be directly compared with one another, and their results pooled with those from other studies.

Another advantage of this ES is that it allows us to use the table of the normal curve to figure out what proportion of people in the treatment group did better than the average person in the control group.

Where the formulae differ is what to use for the SD. One option, called Cohen's *d* (Rosenthal, 1994), is to use the pooled SD of both groups. Its advantage is that it uses all of the data and so is a more stable estimate. Its disadvantage is that it uses all of the data, so that if the intervention affects not only the mean but also the SD of the treatment group, the resulting ES will be biased. Glass's Δ (Glass, 1976) gets around this problem by using only the SD from the control group. The downside is that it uses only half of the data, and so is less efficient than Cohen's *d*.

For dichotomous outcomes (e.g. treatment success or failure), the usual indices of ES are the odds ratio (OR) for case-control studies; and the relative risk (RR) for RCTs and cohort studies. Those who want to understand the important differences between the concepts of odds ratios and relative risk can find a useful discussion on-line at <http://bmj.com/cgi/content/full/316/7136/989>

Because the OR and RR have some undesirable properties (e.g. there's a lower bound of 0 but no upper bound; and no intuitive relationship between an OR or RR and its reciprocal, although both express the same result; see Streiner, 1998), we most often use the logarithm of the OR or RR, which removes these problems.

Step 8. Checking for publication bias

In Step 3, we mentioned that there is a strong bias against submitting articles that failed to show significant results (Cooper et al., 1997) and an equally strong bias against publishing those that have been submitted (Begg & Berlin, 1988). The exclusion of negative studies leads to biased results and will overestimate the overall effect size. Perhaps the most widely used method for determining if publication bias may be operating is to draw a funnel plot (Light & Pillemer, 1984), a fictitious example of which is shown in Figure 1. Some index of the ES (e.g. the ES itself, or the log of the odds ratio) is on the X-axis and an index of the study's size on the Y-axis. This could be the sample size itself, or the reciprocal of the standard error (if we used the standard error itself, the funnel would be upside down). The rationale for the plot is that smaller studies have less precise estimates of the true ES, and so their results would vary from one study to the next. With larger sample sizes (or smaller standard errors), the estimates of the ES should cluster closer to the true ES, resulting in the pyramidal shape.

If publication bias is present, then the funnel is asymmetrical, as in Figure 2, because the non-significant studies have been excluded. Needless to say, this only works if there are a large number of studies ("large" is one of those statistical terms that means, "I can't give you an exact number").

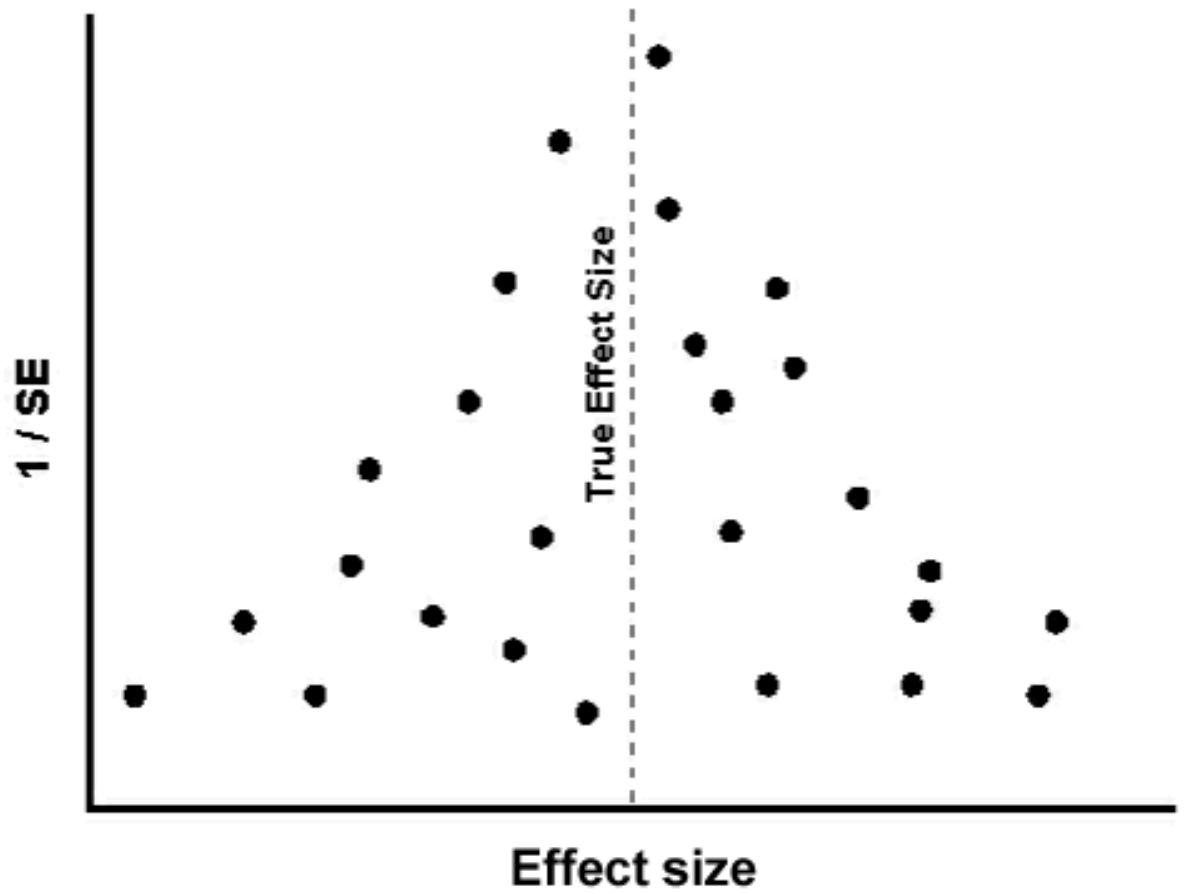


Figure 1.
A fictitious funnel plot with no publication bias

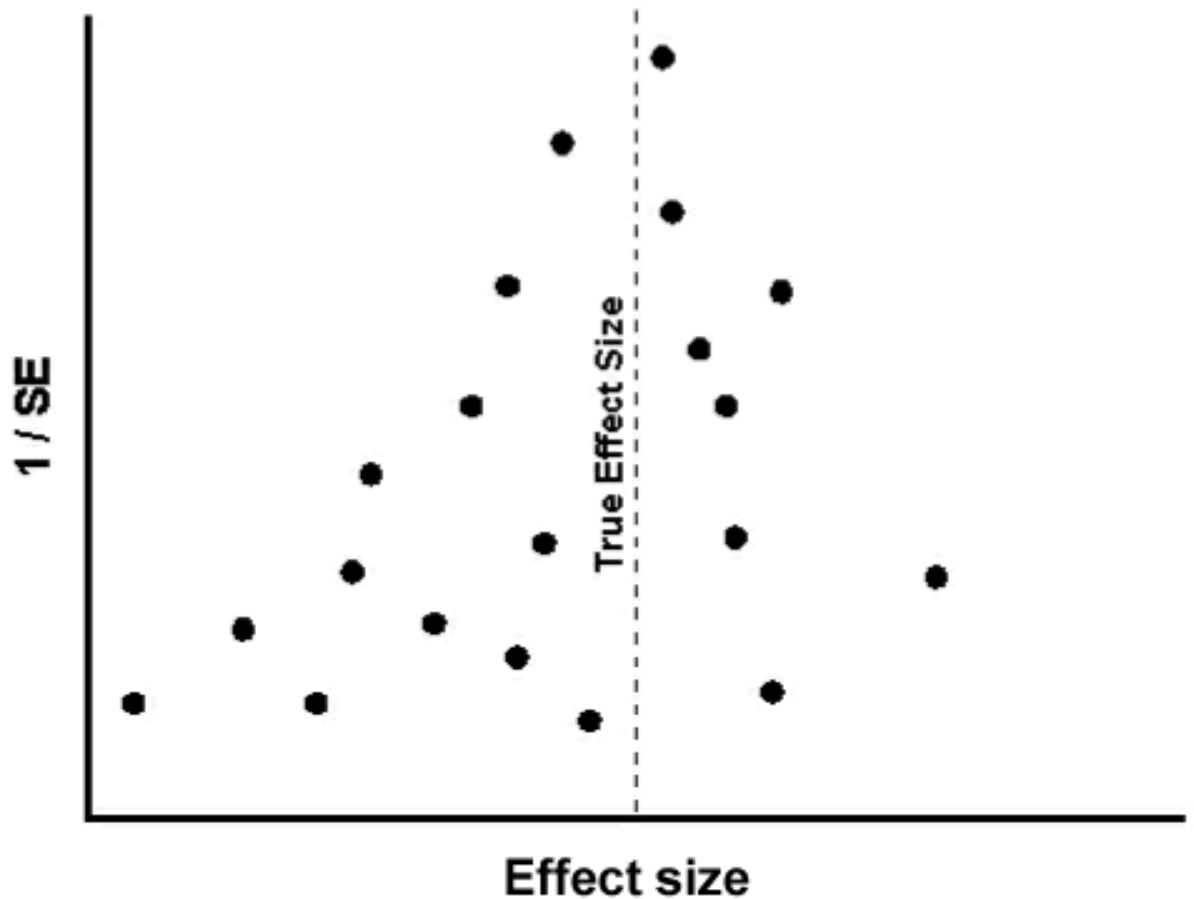


Figure 2
The same plot showing publication bias.

Rosenthal (1979), who coined the term “the file drawer problem,” derived a formula for estimating how many studies with negative results (i.e. with ESs of 0) have to be stuck away in a filing cabinet in order to negate the conclusions of a meta-analysis. If the number is large (same definition as before) in comparison to the number of trials that were found, then we can relatively safely say that it’s unlikely there would be this many, and the results would hold. On the other hand, if the number is small (again, the same definition), we should be far more cautious because even a few unpublished, negative findings would wipe out the overall effect.

Step 9. Testing for homogeneity

It’s important to determine how similar their results are before combining the results of the individual studies. In statistical jargon, the issue is the homogeneity of the findings. If all of the studies report ESs in the same ballpark, then we are more confident that they’re all reporting the same phenomenon and that the pooled ES is a good estimate of what’s really going on. On the other hand, if there is a lot of variability from one study to the next, then it’s possible that we’re trying to compare apples with oranges. That is, the studies may differ so much

from each other in terms of the sample, the intervention, or other aspects of the design, that it may not make sense to combine them. Also, the results of testing for heterogeneity (the opposite of homogeneity) may dictate how we analyze the data (which we will look at in Step 12).

Testing for homogeneity

The most general test for homogeneity, which can be used for any index of ES (Hardy & Thompson, 1998) is

$$Q = \sum w_i (\hat{\theta}_i - \bar{\theta})^2 \quad [2]$$

where w_i is a weight for each study, which we will discuss in the next step; $\hat{\theta}_i$ is the ES for Study i , and $\bar{\theta}$ is the mean ES. Q is distributed as χ^2 with $k - 1$ degrees of freedom, where k is the number of studies.

If it appears as if one or two studies are outliers, in that their ESs are much larger or much smaller than all of the others, it may be worthwhile removing them and seeing if Q becomes non-significant. If so, the final analyses should be done with and without such studies, to test the degree to which they may be influencing the conclusions.

Step 10. Combining the studies

Once the ES has been derived for each study, we have to summarize (or “pool”) them in some way to get an estimate of the mean; that is, an overall estimate of the effectiveness or ineffectiveness of the intervention. The simplest way is to add them up and divide by the number of ESs; after all, that *is* what we mean by the “mean.” But (and there’s always a “but”), this method gives equal weight to studies that looked at 10 patients and those that looked at 1,000. Intuitively, it seems obvious that we should give more credit to larger studies, because their results are more stable. We do this by weighting each effect size (which we denote by θ) by some index of the sample size.

Weighting the studies

The weight that is applied to each study is the reciprocal of its squared standard error(SE):

$$w_i = \frac{1}{SE(\Theta_i)^2} \quad [3]$$

Since the standard error is strongly influenced by the sample size, larger studies will have a smaller SE, and therefore a larger weight. The weighted ESs are then averaged using the formula:

$$\bar{\Theta} = \frac{\sum w_i \Theta_i}{\sum w_i} \quad [4]$$

For more about calculating standard errors for different types of ES, see Deeks, Altman and Bradburn (2001).

Step 11. Looking for influential factors

Even if the test for homogeneity is not statistically significant, there will be some degree of variability among the ESs. We can now look to see what accounts for the differences. Basically, we run a multiple regression, where the ESs are the dependent variable, and the design features we coded in Step 6 are the predictors. For example, we (Joffe et al., 1996) found that how the diagnosis of depression was made had a major influence on the results. Studies that used strict, research-based criteria tended to have larger ESs than studies that relied on the judgement of a single psychiatrist. In studies of treatments for gambling, possible predictors could be the number of therapy sessions, whether a person is self- or other-referred, the quality of the research (based on one of the scales mentioned in Step 5), the presence or absence of other co-morbid conditions, and so on. Bear in mind, though, that the number of predictor variables you can have is limited by the number of articles. The rough rule of thumb is that there should be around 10 articles for each predictor (Norman & Streiner, 2000); so, if you found 20 articles, you should have no more than two predictors.

Step 12. Selecting the type of analysis

There are two general approaches to analyzing the results of meta-analyses: a fixed-effects model and a random-effects model. We will not go into the mathematics of the differences between the two (for which we can all give a heartfelt thanks), but rather discuss the issue on a conceptual level. A fixed-effects model assumes that there is a “true” effect size that underlies all of the studies, and that they differ among each other only because of sampling error. A random-effects model makes the assumption that there is a population of effect sizes, from which the studies in the meta-analysis are a random sample (Hedges & Vevea, 1998). The reason that this distinction is important is that, in many situations, the two types of analyses yield different results. A fixed-effects model is less conservative and may give statistically significant results in some situations when a random-effects model will not.

So, which model is it appropriate to use and when? A fixed-effects model is appropriate if we want to draw conclusions about the particular set of articles in the meta-analysis. That is, it does not allow us to say anything about studies that may have been missed or those that will be done in the future. On the other hand, a random-effects model is perhaps more realistic in two regards. First, by saying that there is a population of effect sizes, the model acknowledges the fact that studies differ with respect to the sample, the procedures used and other aspects of the design, all of which may result in different findings. Second, it allows us to generalize from this particular set of articles to studies of this phenomenon in general; studies we did not include and studies yet to be done. Note that this distinction is not based on the tests of homogeneity we discussed in Step 9, but only on the type of inferences we wish to make (Erez, Bloom & Wells, 1996; Hedges & Vevea, 1998). In most situations, and especially if the test of homogeneity is significant, we would be wise to go with a random-effects model.

Summary

Meta-analysis is neither the answer to all of the world's ills, nor the greatest scourge visited upon humanity since the Black Plague. Carefully done and used intelligently it can be a very powerful tool for synthesizing the literature in a field, sometimes bringing clarity where there had been confusion. This is particularly true when the effect we are looking for is small, and even very large trials may not have sufficient power to tease out a definitive conclusion. For example, there were six relatively large trials looking at the effects of ASA following a myocardial infarct. Because the outcomes were dichotomous and the event rate rare (fortunately for us; unfortunately for the researchers), none showed statistically significant results. However, a meta-analysis showed that by combining these studies, there was a clear advantage to taking ASA (Canner, 1983); and a similar conclusion was made regarding beta-blockade, again on the basis of individually non-significant studies (Peto, 1987).

On the other hand, meta-analyses do not do away with the need for judgement and decision making. Two people reviewing the same literature may use different criteria in deciding which articles to include and which to discard; how the effect size should be calculated; which type of analysis to use; and so forth. Consequently, meta-analyses should not be regarded as “truth,” only as a better approximation of it than individual studies. Used in this way, and tempered by clinical experience, they can assist the clinician in deciding what may work and what won't for a particular patient.

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For correspondence:

David L. Streiner, PhD, CPsych.

Director, Kunin-Lunenfeld Applied Research Unit Baycrest Centre for Geriatric Care

3560 Bathurst Street

Toronto, Ontario, Canada M6A 2E1

Telephone: (416) 785-2500, x2534

Fax: (416) 785-4230

E-mail: dstreiner@klaru-baycrest.on.ca

After graduating from the clinical psychology department at Syracuse University (New York), I joined the faculty of health sciences at McMaster University (Hamilton, Ontario), in the departments of psychiatry and clinical epidemiology and biostatistics. My aim was to stay for about two years. Thirty years later, I retired from McMaster, and the next day, moved to the Baycrest Centre for Geriatric Care in Toronto as director of the Kunin-Lunenfeld Applied Research Unit and assistant V.P., research; and as a professor in the department of psychiatry (University of Toronto). My main research interests are (a) determining which types of woods work best for furniture I make for my grandchildren, and (b) whether songs sound better played on the banjo or guitar. In between these activities, I have published four books, 10 book chapters, and about 200 articles spanning a range of research areas, from statistics to schizophrenia, to scale development and the sequelae of extremely low birth weight.

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Why do gamblers over-report wins? An examination of social factors



By John Jamieson, PhD (1)
E-mail: john.jamieson@lakeheadu.ca



Chris Mushquash, MA Candidate (1)



Dwight Mazmanian, PhD (1)

(1) Department of Psychology, Lakehead University Thunder Bay, Ontario, Canada

Abstract

The role of social factors in gamblers' over-reporting of wins was explored using a survey administered via the Internet. One hundred and fifteen gamblers (average age 36.9) completed the survey. The majority of gamblers reported that they do not over-report wins, and would not do so for social reasons. However, they believe that other gamblers do mislead people about their losses for a variety of social reasons, such as a desire to appear skilled or to be popular. As well, the majority of gamblers report not feeling urges to gamble when hearing about wins, although younger people, males, and those with gambling problems were significantly more likely to report feeling and/or acting on urges to gamble when hearing about others' wins. The discrepancy between their views of themselves and of other gamblers may be due to cognitive distortions specific to gamblers, or may reflect a general self-presentation bias.

Key words: gambling, over-reports of wins, cognitive distortions, self-presentation bias

It is perhaps paradoxical that at the same time casinos and lotteries are making millions of dollars, the majority of gambling stories in the media are about wins, not losses (Hill & Williamson, 1998; McMullan & Mullen, 2001). Similarly, when conversations turn to stories about gambling, it is generally initiated by someone who wants to tell about a recent gambling win. In spite of the fact that losses are much more common than wins, we hear primarily about the wins. This asymmetry of information about gambling wins and losses raises several issues. First, why don't we hear about the losses? Second, does this biased information have any effects on gambling behaviour, or on people's expectations of winning?

The phenomenon of gamblers reporting their wins, not their losses, has been widely documented. Toneatto, Blitz-Miller, Calderwood, Dragonetti, and Tsanos (1997) found that about one third of heavy gamblers showed a tendency to recall wins but forget their losses. Similarly, Carroll and Huxley (1994) found that addicted gamblers' reports of winnings exceeded what they had actually won. The usual explanation for this reporting bias has focused on a memory availability bias: large wins are rare and salient, while losses are common and not salient (Tversky & Kahneman, 1982). However, this explanation does not address why the media over-reports wins. Might the same processes affect the selective

reporting of both the media and the individual gambler?

The media generally report stories because they are of interest to the public, and presumably the public likes to hear about wins. Gamblers may also tell about their wins because this is what their audience wants to hear. As well, gamblers might tell about their wins for other social reasons such as to appear more successful, or to evoke favourable impressions from others (Schlenker & Wiegold, 1992). Holtgraves (1988) has suggested that gamblers' over-reporting of wins may be an explicit attempt to create favourable impressions on others. Thus there appear to be two conflicting explanations for the over-reporting of wins: (1) it may reflect an implicit memory bias, of which the gambler is unaware, or (2) it may reflect intentional efforts at impression management. The first purpose of this study was to investigate whether gamblers intentionally tell people about their wins, not their losses, and whether they do so for various social-interpersonal reasons.

There is little information about the effects of reports of wins in the media or from other gamblers on gambling behaviour. It has been suggested that this biased information may strengthen the biased beliefs of gamblers (Walker, 1992). Expectations about winning (subjective probabilities) develop from both personal experience and observation. Since the public's observations are biased because of the over-reporting of wins, this could lead to unrealistically high expectations of winning, which might in turn lead to excessive gambling. As well, there are anecdotal reports from gambling counsellors that problem gamblers may experience strong urges to gamble when hearing about a gambling win. The second purpose of this study was to explore the effects of reports of wins. Are gamblers aware that the reports of wins by others are likely to be distorted, and, as a consequence, are they skeptical of others' reports of gambling wins? As well, do they report feeling the urge to gamble when they hear of wins, and do they act on these urges?

Method

Participants:

The sample consisted of 115 individuals recruited over the Internet. Seventy-eight (67.8%) were males and 37 (32.2%) were females. The mean age was 36.9 years (standard deviation = 11.8). Everyone reported gambling at least some of the time; the majority (60.9%) reported gambling more than once a month; and 27.8% gambled several times per week. Most of the sample (85.2%) reported that their gambling was not out of control, but 12.2% reported that their gambling was "occasionally" out of control, and 2.6% reported that their gambling was out of control.

Materials:

A 33-item questionnaire was designed for this study. It contained questions about the background and gambling behaviour of each participant, the presence of distorted beliefs (gambler's fallacy), the perception of impact of reports of wins (by friends and media), reasons why they or others may over-report wins, their skepticism of others, the degree to which they believe others have an accurate description of their gambling situation and the possible activating effect of reports of wins. The exact wording of most questions is presented in the Results section. Responses were generally on a four-point scale.

The questionnaire was posted on the Internet and can be seen at: flash.lakeheadu.ca/

[~cjmushqu/gambling_questionnaire.html](#)

Procedure:

Participants were solicited over the Internet in several ways. People searches were conducted using ICQ, which is a person-to-person discussion program that allows one to search for particular types of people. A note was also posted on several gambling-related discussion forums (e.g. [activegambler.com](#); [bj21.com](#), [winneronline.com](#)), asking if anyone wished to participate in a gambling study. A link directed them to a web page containing a consent form. Upon choosing to participate, potential participants were directed to the questionnaire, which was administered over the Internet.

Responses were sent directly to a database that could be accessed by Statistical Package for the Social Sciences software. The data were analyzed using bivariate correlation analyses (continuous and ordinal data) and chi-square analyses (frequency data). In analyses that involved comparisons of the participants' responses on one item with their responses on another, McNemar's test for related samples was employed.

Results

Gambling history and beliefs

In response to the question, "When you gamble, how often do you go back another day to win back money that you lost?", 40.9% of the participants reported 'chasing losses' on at least some occasions. In response to the question, "If you tossed a normal coin and it came up 'heads' 5 times in a row, what would be the most likely result of the next toss?" Thirteen per cent of the participants exhibited the gambler's fallacy, by choosing either 'heads' or 'tails', not 'equally likely.'

When asked, "How many gamblers lose more than they win?", 98.3% answered, 'most' or 'all.' But when asked the question, "Overall, how does the money you have won compare to the amount you have lost (or spent) gambling?", only 46.6% of participants reported losing more than they won, 11.3% answered 'same' and 41.7% answered that they had won more. While they acknowledge that most gamblers lose, the majority of gamblers completing this questionnaire said they were not among these losers. Those who reported losing more also reported significantly more gambling problems, $r(112) = .249$, $p < .001$, and were more likely to chase losses, $r(111) = .341$, $p < .001$.

Awareness of over-reporting wins

Two items addressed whether they tell others about their gambling wins. In response to the question, "Do you talk to friends and/or relatives about your gambling wins?", most participants (87.9%) answered affirmatively. Also to the question, "If you had a good win at a casino would you be excited about telling friends and/or relatives?" — the majority (66.1%) responded they would be moderately or very excited.

Three items addressed whether they mislead others about their wins. In response to the question, "Have you ever claimed to be winning money when in fact you lost?" 89.5% answered 'no', or 'maybe once.' To the question "Have you ever told friends and/or relatives about a jackpot you won, without telling them that you lost money on that trip to the casino?"

93.9% answered 'no', or 'maybe once.' To the question, "Have you ever told friends and/or relatives about your wins, but not mentioned your losses?" 78.3% answered 'no', or 'maybe once.'

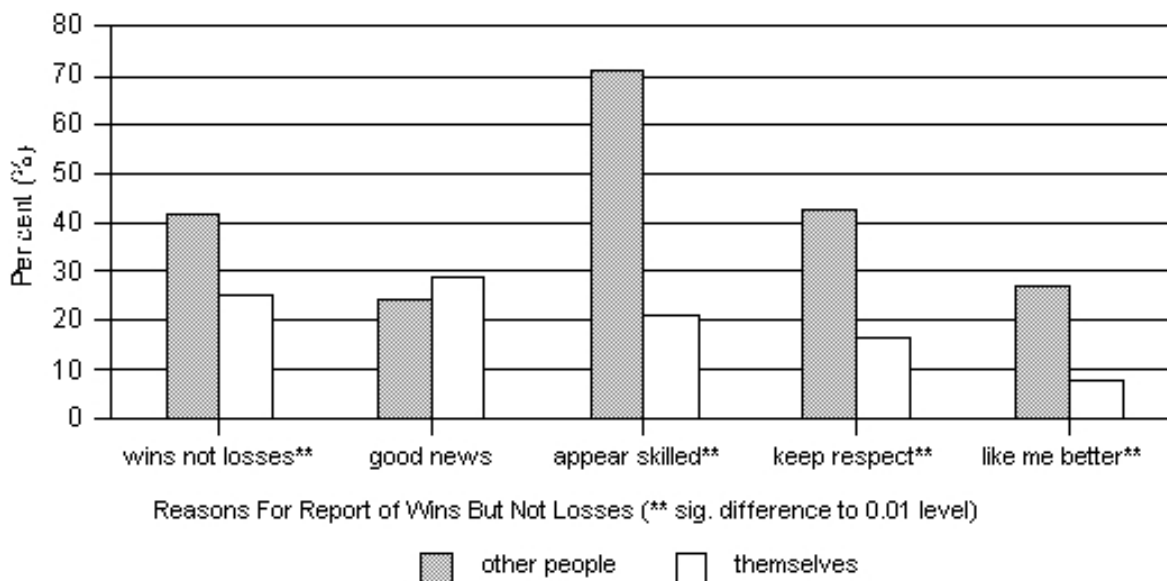
While the majority report talking to friends or relatives about their wins, and being excited about talking about their wins, they also report being truthful when describing their gambling outcomes to friends and relatives, and do not show an awareness of over-reporting wins. However, this view of themselves contrasts with their views of other gamblers. When asked "Do people more often tell you about their wins than about their losses?", only 22.6% answered that this never or rarely occurred — significantly lower than the 78.3% who said they never or maybe once did this to others, $\chi^2(1, N = 112) = 55.39, p < .001$.

Another question asked "Do you think others give you an accurate picture of their overall win/loss situation?" The majority (71.3%) answered 'rarely' or 'no.' Again, this skepticism of others contrasts with their responses to the mirror question, "Do your friends and/or relatives have an accurate picture of your overall win/loss situation?", where only 35.6% answered 'rarely or 'no', $\chi^2(1, N = 111) = 31.37, p < .001$.

Social-interpersonal reasons for over-reporting wins

The question was asked, "If you were to tell people about your wins but not your losses, why would you do this? How important are each of the following reasons?" The reasons were "Other people are more interested in hearing about wins than hearing about losses"; "People like to hear only good news"; "So I will appear a more skilled gambler"; "So people will not lose respect for me"; and "So people will like me better." The majority of gamblers reported that none of these reasons were moderately or very important to them (see Figure 1).

Figure 1: Percent of respondents who considered these reasons for over-reporting wins as moderately or very important for themselves and others.



A 'mirror' question asked the reasons why others might tell about their wins, but not their losses, and each of the same reasons (with slight wording changes reflecting the reversal of subject and object) were rated on the same scale. Figure 1 also shows the percentage who felt these reasons were moderately or very important to other people. These percentages were significantly higher ($p < .01$) for all reasons except "People/I only like to hear good news." The reason most attributed to others for over-reporting wins was to appear more skilled (71.4% said this was moderately or very important to others).

Additional comparisons between the importance of reasons to themselves and to others were conducted separately for those who had reported winning more than they have lost, and those who had reported losing more than they had won. Both groups showed the same difference between the importance of these reasons for over-reporting wins to themselves and to others.

Urges to gamble

Several questions addressed whether they felt the urge to gamble after hearing about someone else winning a large prize. To the question "When you read about someone winning a huge lottery, do you feel the urge to buy lottery tickets?", 67.0% reported not feeling any urge, and 20% reported only feeling a slight urge. To the question "If a friend told you that they had won a large jackpot playing slots at a casino, would you feel the urge to go to the casino yourself?", 74.8% reported no urge and an additional 15.7% only a slight urge.

Three questions addressed whether participants had acted on these urges. To the question "In the past, have you bought more lottery tickets than you normally would have, because you read about someone winning a huge lottery prize?", 80.9% answered 'no' and an additional 11.3% answered 'maybe once.' To the question "Have you ever gone to a casino because a friend told you about a large jackpot they had won?", 90.4% answered 'no.' The third question was "Have you ever gambled more money than you intended, on either lottery tickets or at a casino, because a friend had recently won a large jackpot?"; again 87.8% answered 'no.'

While the majority of gamblers reported they have not acted on urges to gamble after hearing about others wins, their view of the effect of their reports of wins on other gamblers was quite different. In response to the question "Do you think someone you know has gambled more because of your reports of your wins?", only 55.8% answered "no." This was significantly lower than the percentage answering that they had never acted on urges to gamble after hearing about a win at either lotteries (80.9%, $\chi^2 [1, N = 113] = 14.58, p < .001$) or casinos (90.4%, $\chi^2 [1, N = 113] = 29.47, p < .001$). Thus the gamblers reported that they were largely unaffected by others' reports of wins, but that others were more likely to gamble because of their reports of wins.

Additional correlations

While the majority of participants report neither feeling nor acting on urges to gamble when hearing about wins, additional analyses were conducted to examine the characteristics of those who did report feeling and acting on these urges. These correlations are presented in [Table 1](#). Stronger urges were experienced by those who reported having lost more money than they had won, who chase losses, and who believe in the gambler's fallacy. Those who admit to having a gambling problem are more likely to act on these urges, especially at a

casino. Feeling and acting on urges are also more common in younger people and in males. Urges were not related to their frequency of gambling.

Discussion

The findings did not provide clear support for the 'social' explanation for why gamblers over-report wins. Most gamblers in the sample deny ever misleading people. Most also said they would not mislead people for any of the social reasons that were presented. However, their view of themselves contrasts with their view of other gamblers. They believe that other gamblers do mislead people about their losses for a variety of social reasons, such as a desire to appear skilled or to be popular. Thus, the picture emerged that 'others might mislead me for these social reasons, but I tell the truth.'

The discrepancy between how gamblers view themselves and how they view others was apparent throughout the questionnaire. In response to the question "How many gamblers lose more than they win?", 98.3% answered 'most' or 'all.' However, when asked if they have won or lost more, only 46.6% reported losing more than they have won. As well, they felt that others had an accurate view of their win-loss situation, but that they did not have an accurate view of others.

The possibility that this study obtained an atypical sample of gamblers who win and who do not over-report wins is not supported by the finding that those who reported winning more and those who reported losing more both showed the same discrepancies between their views of themselves and of other gamblers. Instead, these findings are consistent with a body of research describing the cognitive distortions common to gamblers (Toneatto, 1999). For example, gamblers attribute success to personal factors such as skill, but attribute losses to external factors such as bad luck (Gabory & Ladouceur, 1989). They also show distorted beliefs about the independence of events, such as the gambler's fallacy and belief in hot or cold numbers. Another distorted belief of gamblers is an optimistic bias, which includes the illusion of control over one's destiny (Hoorens, 1994) as well as unrealistic optimism and overconfident expectations of winning (Weinstein, 1980). Of particular relevance to the present findings are reports that gamblers minimize the skill of other gamblers and have exaggerated self efficacy in their ability to win (Toneatto, 1999). The present findings show that gamblers minimize the gambling success and honesty of other gamblers, relative to themselves.

However, this discrepancy may well reflect a general self-presentation bias, not specific to gamblers. People tend to see positive things about themselves, more than about others. As Pronin, Lin and Ross (2002) recently observed, "We find that our adversaries, and at times even our peers, see events and issues through the distorting prism of their political ideology, their particular individual group history and interests, and their desire to see themselves in a positive light. When we reflect on our own views of the world, however, we generally see little evidence of such bias. We have the impression that we see issues and events 'objectively', as they are in 'reality'... people recognize the existence, and the impact, of most of the biases that social and cognitive psychologists have described over the past few decades. What they lack recognition of, we would argue, is the role those same biases play in governing their own judgments and inferences" (p. 369). As well, there is evidence for an implicit process in self evaluation, of which the individual is unaware, and which distorts perceptions about the self. These self-related processes occur implicitly and outside of awareness and influence information processing "without deliberate activation or conscious control" (Cross, Morris & Gore, 2002, p. 401).

The second purpose of this study was to assess whether gamblers are affected by media reports of wins or by others over-reporting their wins. Again, the findings do not directly support such an effect. Most gamblers reported not feeling urges to gamble when hearing about wins, and even fewer report acting on such urges. As well, most gamblers are skeptical of the reports of others about wins, suggesting that the over-reporting of wins may not have a major impact on gambling behaviour or on expectations of winning. However, balancing this conclusion is the finding that the gamblers felt others were more likely to gamble because of their reports of wins. The self perception bias may again be operating to suppress the recognition of this effect on themselves.

While the present findings generally did not support a major effect of the over-reporting of wins on gambling behaviours, several findings emerged to suggest that some subsets of the population may be particularly vulnerable to negative effects of this biased reporting. Younger people, males and problem gamblers were significantly more likely to report feeling and/or acting on urges to gamble when hearing about another's win. The finding of activating effects of reports of wins in these subgroups suggests that this issue could be of potential clinical significance. Replication of these findings and further research would be required to determine this, however.

Several potential limitations of this study should be addressed. First of all, our sample of gamblers had access to and some knowledge of the Internet. There is no information available as to what, if any, differences might exist between gamblers who have access to the Internet and those who do not, nor whether such differences would produce different results for the two groups. Another issue is the extent to which responses provided on Internet-based questionnaires correspond to those obtained using more conventional methodology (e.g. paper-and-pencil tests and questionnaires). The results of a number of recent studies that examined this issue have revealed no differences between responses obtained using the Internet and those obtained using paper-and-pencil methodology in such related areas as personality (e.g. Buchanan & Smith, 1999; Pettit, 2002) and alcohol use (Miller et al., 2002).

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For correspondence:

John Jamieson

Department of Psychology,

Lakehead University,

Thunder Bay, Ontario, Canada P7B 5E1

Ph: (807) 343-8738

Fax: (807) 346-7734

E-mail: john.jamieson@lakeheadu.ca

John Jamieson is a professor in the psychology department at Lakehead University, Thunder Bay, Ontario. His main interests lie in experimental design and statistics. As an educator, he is intrigued by the factors that sustain gambling behaviours in view of the long-term expectation of loss. Chris Mushquash is a graduate student in experimental psychology at Lakehead University. This study was part of his HBSc thesis and he currently holds a fellowship from the Ontario Problem Gambling Research Centre, which will support his continuing research in gambling. Dwight Mazmanian is an associate professor at Lakehead University and a registered clinical psychologist. He is particularly interested in assessment and treatment of cognitive distortions that underlie problem gambling.

Table 1. Correlations between frequency of gambling, the amount of money lost, degree of problem gambling, degree of gambler's fallacy, the degree to which the respondent chases losses, gender and age with feeling and acting on urges to gamble on lottery tickets and at a casino.

	Feeling urges		Acting on urges		
	Lottery	Casino	Lottery	Casino	Spent
Gambling frequency	.145	.023	.118	-.008	.018
Amount lost	.318**	.226*	.283**	.209*	.231*
Problem gambling	.028	.068	.139	.278**	.296**
Gambler's fallacy	-.298**	-.227*	-.199*	-.144	-.198*
Chasing losses	.138	.341**	.181	.297**	.201*
Age	-.345**	-.213*	-.216*	-.080	-.006
Gender ¹	.353*	.337*	.229*	.207*	.276**

* $p < 0.05$ ** $p < 0.01$

¹ Point biserial correlation (females coded 1, males coded 2)

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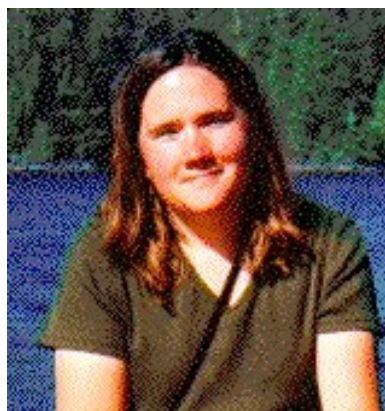
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Quitting again: Motivations and strategies for terminating gambling relapses



By Kylie L. Thygesen, BA, Honours
Department of Psychology
University of Calgary
Calgary, Alberta, Canada
E-mail: klthyges@ucalgary.ca



David C. Hodgins, PhD
Department of Psychology
University of Calgary
Calgary, Alberta, Canada

Abstract

This study provides a descriptive exploration of the reason(s) why individuals who experienced a gambling relapse terminated the relapse episode and how they did so. Thirty-eight males and 22 females were

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administered the Relapse Experience Interview (Marlatt & Gordon, 1989). Participants (N = 60) cited a mean of 1.5 reasons for terminating relapse, with monetary factors, affective factors, reappraisal and external constraints emerging as central factors in relapse termination. Participants reported using a mean of 1.7 strategies for stopping a gambling episode. The strategies used were identified as either cognitive or behavioural and were classified according to the processes of change model (Prochaska, DiClemente & Norcross, 1992). Stimulus control, self-liberation, counterconditioning and helping relationships were the main strategies used to terminate gambling relapse. Participants showed a preference for using either cognitive or behavioural strategies rather than both.

Key words: gambling, relapse, processes of change, reasons for termination

Introduction

A significant majority of pathological gamblers relapse at least once while attempting to quit gambling. In a sample of naturally recovering gamblers, Hodgins and el-Guebaly (2002) found 92% of those who were followed relapsed at least once during a 12-month follow-up period. Walker (1993) found that approximately 71% of treated gamblers relapsed within one year of stopping their gambling. Moreover, only 15% of treated gamblers were abstinent two years after treatment. Blaszczynski, McConaghy and Frankova (1991) indicated that post treatment, 16% of gamblers were completely abstinent, with 33% engaging in a minor instance of gambling (e.g. buying a raffle ticket). With poor outcome findings such as these, it has been noted that the area of relapse and relapse termination merits more attention (Hodgins, el-Guebaly & Armstrong, 2001).

Part of the difficulty in assessing treatment effectiveness stems from different definitions of what constitutes a lapse or relapse. Lapses can be conceptualized as "a discrete event that disrupts the overall programme of habit change at least temporarily" (Marlatt & Gordon, 1989, p. 279) that "may or may not lead to an outcome (relapse)" (Brownell, Marlatt, Lichtenstein & Wilson, 1986, p. 765). Relapses can be broadly defined as "an episode or period of excessive gambling accompanied by a subjective sense of loss of control" (Blaszczynski et al., 1991, p. 1486).

For the most part, relapse tends to result in uncontrolled gaming behaviour that brings with it many deleterious consequences, which affect functioning to a much greater extent than a lapse. Blaszczynski et al. (1991) state that "complete abstinence as a criterion for successful treatment may be too stringent in that it fails to acknowledge the possibility of continued abstinence following brief episodes of relapse" (p. 1486). Whether practitioners agree with this or not, discovering the reasons why and ways in which individuals terminate relapse becomes pivotal to reducing negative consequences, limiting the time that it takes to stop relapses, and increasing awareness of the learning opportunities the relapse may present.

Additionally, knowledge of relapse cessation may help to develop a more comprehensive treatment model that can utilize this knowledge to further the goals of controlled gambling or abstinence.

Reasons for terminating relapse

If clinicians and researchers have a thorough understanding of the motivating factors that prompt individuals to terminate their relapses, more effective models of intervention may be developed. To date, four studies have been conducted that focused on the termination of alcohol use relapses. Three of these studies had small, unrepresentative samples that were drawn from populations exposed to a specific type of treatment (thereby hindering the generalizability of their findings). Across these studies, a variety of reasons for terminating relapse were revealed. Participants cited reasons related to self-control and anticipation of negative consequences (Maisto, O'Farrell, Connors, McKay & Pelcovits, 1988); anticipation of emotional and physical consequences of drinking, treatment entry, just deciding to stop, and interventions by others (Maisto, McKay & O'Farrell, 1995); reduced incentive, adverse consequences (i.e. guilt, dislike of the experience and feeling intoxicated) and other reasons (i.e. environmental limits and nonspecific reasons, such as "just stopped") (O'Malley, Jaffer, Rode & Rounsaville, 1996).

A final study (Hodgins, Ungar, el-Guebaly & Armstrong, 1997) used a naturalistic sample to examine the reasons and strategies involved in relapse termination. Individuals' reasons ranged from immediate drinking-focused reasons (i.e. no more motivation to drink) to consideration of future consequences, social influence and interpersonal considerations and goal incompatibility. Approximately 50% of the reasons these individuals cited for stopping their relapses were categorized as intrinsic.

The current study provides a descriptive exploration of the reason(s) individuals experiencing a relapse terminated their gambling. It is hoped that identification of the key reasons for terminating relapse can eventually be utilized to treat problem gamblers (i.e. to prevent lapses from becoming full blown relapses and/or to terminate relapses). The current study used content analysis to create a new categorization scheme to classify reasons for terminating gambling relapse.

Strategies for terminating relapse

Prochaska et al.'s (1992) transtheoretical model can be used to conceptualize processes of change (strategies) used to end relapse (see Table 1).

Table 1

Ten principal processes of behaviour change

Process:	Definition:

Counterconditioning*	-Substituting alternative for problem behaviours
Stimulus control*	-Avoiding or countering stimuli that elicit problem behaviours
Self-liberation*	-Choosing and committing to act or the belief in ability to change
Reinforcement management*	-Rewarding oneself or being rewarded by others for making changes
Helping relationships*	-Being open and trusting about problems with someone who cares
Dramatic relief	-Experiencing and expressing feelings about one's problems and solutions
Environmental re-evaluation	-Assessing how one's problem affects physical environment
Self re-evaluation	-Assessing how one feels and thinks about oneself with respect to a problem
Social liberation	-Increasing alternative for non-problem behaviours available in society
Consciousness raising	-Increasing information about self and problem

**Processes with an asterisk are the most frequently used in the action and maintenance stages; therefore, Prochaska et al. (1992) predict them to be used most often in relapse termination.*

The frequency that the 10 processes are used is proposed to vary, depending on the stage of change an individual is in. According to this model, the techniques most often used in the *action* stage are self-liberation (choosing and committing to act, or belief in the ability to change), reinforcement management (rewarding oneself or being rewarded by others for making changes), helping relationships (being open and trusting about problems with someone who cares), counterconditioning (substituting alternatives for problem behaviours) and stimulus control (avoiding or countering stimuli that elicit problem behaviours). These same techniques are said to be utilized in the *maintenance* stage; however, at this stage, the use of counterconditioning and stimulus control may be more prevalent.

Hodgins et al. (1997) explored the processes used to terminate alcoholic relapse. Supporting Prochaska et al.'s (1992) model, the processes of change most frequently used to terminate relapse were self-liberation, helping relationships, counterconditioning and stimulus control. Contrary to the predictions of the processes of change model, reinforcement management was not frequently endorsed as a means to terminate alcohol relapse.

The current study examined the types of processes used by gamblers in the action and maintenance stages to terminate relapse and how frequently these processes were used. The strategies used to terminate relapse were categorized according to the 10 processes of change proposed by Prochaska et al. (1992) and were also labeled as cognitive or behavioural (Annis, Schober & Kelly, 1996).

Research methods

Participants

Participants (N=101) were recruited from April 1998 to November 1999, through word of mouth (family members or friends) and media announcements (e.g. press releases, paid advertisements in newspapers, television and radio) in Calgary, Alberta, Canada. Flyers were also posted in the community and at local treatment centers. Eligible participants were those with a South Oak Gambling Screen (SOGS) (Lesieur & Blume, 1987) score greater than four, accompanied by some gambling in the preceding four weeks. Further inclusion criteria included agreement to participate in a comprehensive personal interview, three follow-up interviews at three, six and 12 months after the initial assessment, and willingness to be contacted once every seven days for three months, if randomly assigned to the weekly contact group. Finally, eligible participants had to be willing to provide the names of three collaterals to confirm gambling histories. As this study is part of a larger investigation, readers are referred to Hodgins et al. (2001) for a more comprehensive description of methods.

The present investigation used data from 60 relapsed participants. Of the remaining 41 participants, six remained abstinent and 35 were excluded from the analysis because their data was incomplete (i.e. the interview questions were not transcribed, questions were not asked, etc.).

Data from 38 males and 22 females were analyzed. The mean age of the participants was 39 years (SD = 9, range = 19–59). Fifty-five per cent were employed full-time, 15% worked part-time and 18% were unemployed. Postsecondary education had been obtained by 72% of participants (range = 0.5 years to 7 years). At the time of the study, 35% had never been married, 28% were divorced and 20% were married. The mean number of children was one, with 52% of the participants having no children. Overall, these figures are similar to those found in treatment-seeking samples.

The mean SOGS score for the participants was 12.3 (SD = 3.4) and the DSM IV criteria for pathological gambling were met by 87% of the participants. The most problematic gambling involvement was with lottery type games (88%) and with video lottery terminals (87%). Seventy per cent of the individuals had experienced thoughts of killing themselves. Suicide attempts had been made by 28% of the sample. Seven per cent of these attempts were related to problems with gambling. Past or current mood disorders were diagnosed in 63% of the participants. Additionally, 77% of the participants received a DSM diagnosis related to alcohol use problems or dependence, with 8% having a current diagnosis. Cannabis was being used by 3% of the participants. Significant gender differences were not found for any of the abovementioned findings.

Measures

Data obtained from the Relapse Experience Interview (REI) (Marlatt & Gordon, 1989; Hodgins et al., 2001) was used in this study. This semi-structured interview was modified by Hodgins et al. (2001) so that it could be used to obtain a description of how individuals terminated their gambling (as opposed to their drinking). Open-ended questions and probes were used in this interview to obtain a description of the emotional, cognitive, behavioural and situational factors that were associated with relapse onset. In this study, transcribed answers to the two interview questions, "What was the main reason(s) for stopping (getting control)?" and "How did you stop your gambling?" were examined. In addition to the REI, eight instruments were used in the study conducted by Hodgins et al. (2001). Descriptive data was obtained from these instruments; the reader is referred to Hodgins et al. (2001) for an overview of the instrumentation.

Procedure

Eligible volunteers underwent an initial face-to-face assessment to obtain information regarding demographics, gambling history and related problems, mood, substance use and dependence, smoking history, gambling activities and frequency, gambling goals and confidence, and reasons for changing. The administration, recording and transcription of the REIs were of particular relevance to this study.

At the initial assessment interview, the REI was administered for the most recent relapse (defined as any gambling after a period of two weeks of abstinence). In the face-to-face follow-up interviews at three, six and 12 months, a timeline follow-back procedure (Sobell & Sobell, 1992; Hodgins & Makarchuk, 2002) was used. The REI was given for each relapse that had occurred after the last interview contact. The current study examined only one REI per person; the REI for the most recent relapse, to minimize retrospective bias.

The participants' answers to the REI questions were examined and categories were determined by the researcher through a process of content analysis (Denzin & Lincoln, 1994; Taylor & Bogdan, 1998). A second rater was used to determine the inter-rater reliability of the newly developed categorization model. Any remaining

disagreements were resolved with a third rater.

The strategies that individuals used to terminate their relapses were categorized according to the Prochaska et al. (1992) processes of change model. Participants' strategies for terminating gambling relapse were categorized according to the 10 methods of coping proposed to facilitate change. When content analysis revealed factors that were not accounted for, modifications were made and the coping strategy categories were expanded. Finally, strategies were categorized as being cognitive or behavioural in nature (Annis et al., 1996). Strategies that could not be categorized were classified as being unclear or not applicable. The researcher determined categorical membership and a second rater was used to determine the inter-rater reliability of the classifications. A third rater was consulted to resolve any disagreements.

Results

Reasons for terminating relapse

A total of 59 participants (37 males and 22 females) cited at least one reason for terminating their relapses. The remaining participant was not asked the question. Ninety reasons were given, with each participant providing a mean of 1.5 reasons (mode = 1, range = 1–5, SD = 0.9). Significant differences were not found between the mean number of reasons reported by men and women.

Content analysis resulted in 11 main categories for the participants' self-reported reasons for terminating relapse. Inter-rater reliability showed 93% agreement overall. Cohen's kappa was calculated (Bordens & Abbott, 1996) to account for chance agreements ($k = 0.91$). Kappa scores from 0.7 to 1.0 are deemed to be indicators of excellent reliability (Cicchetti, 1994).

The frequency with which each of the categories was endorsed is displayed in Table 2. These percentages do not represent the portion of people who chose each category; rather, they represent the comparative frequency with which the reasons in each category were mentioned. Some individuals gave more than one reason within the same category.

Table 2

Relative frequencies of reasons cited for terminating gambling relapse (N=90)

CATEGORY	EXAMPLES	N	%

Monetary Factors		24	26.7
<i>Immediate</i>	-Running out of money while in the bar	9	37.5
<i>Non-immediate</i>	-Lacking funds in general	15	62.5
Affective Factors		17	18.9
<i>Immediate gambling-focused</i>	-Disliking the feeling of losing	9	52.9
<i>Non-immediate</i>	-Feeling guilty when thinking about relapse	8	47.1
Reappraisal		13	14.4
<i>Cognitive</i>	-Reassessing gambling odds	10	76.9
<i>Interpersonal</i>	-Examining the effect of gambling on relationships	3	23.1
External Constraints		11	12.2
<i>Immediate</i>	-Venue closed	2	18.2
<i>Non-immediate</i>	-Generally too busy	9	81.8
Recommitment to Goal	-Stopping to achieve abstinence	6	6.7
Unspecified Obligations (immediate)	-Had to keep an appointment	5	5.6
Desire Absent	-No urge to go back	5	5.6
Physical Factors (immediate)	-Fatigue	4	4.4
Unknown		2	2.2

Avoidance	-Stopping to prevent adverse financial consequences	2	2.2
Gambling Goal Attainment (immediate)	-Hit the jackpot	1	1.1

Note: Reasons were provided by 59 participants.

As shown in Table 2, the most frequently cited reason for terminating relapse pertained to monetary factors (27%). The second most frequently cited reason related to affective factors (19%), while the third and fourth largest reasons were associated with reappraisal (14%) and external constraints (12%), respectively. Reasons that were "unknown" — related to physical factors, gambling goal attainment, unspecified obligations, recommitment to goal, absence of desire and avoidance — were cited relatively infrequently.

Strategies for terminating relapse

A total of 42 participants (26 males and 16 females) cited 73 strategies used to terminate relapse. The remaining 18 participants were not asked the question, or cited strategies that were categorized as reasons. Each participant provided a mean of 1.7 strategies (mode = 1, range = 1–4, SD = 0.67). Differences in the number of strategies reported by men and women were not significant.

The processes of change model (Prochaska et al., 1992) was slightly modified and expanded to categorize respondents' strategies. This modification included elaboration and further description of the categories. In addition, an eleventh category, Unclear/Other, was added to account for the people whose strategies were unclear, or who stated that they did not actively engage in any processes in order to terminate their relapses. Inter-rater agreement for the 11 categories was 90%, showing excellent reliability ($k = 0.94$).

The frequency with which each of the 11 strategy groupings was mentioned is displayed in Table 3. Again, these numbers do not represent the percentage of participants who chose each category. Rather, they represent the comparative frequency with which the strategies in each category were mentioned. This allowed one person to list multiple strategies that fall within the same category.

Table 3

Relative frequencies of strategies cited for terminating gambling relapse (N=73)

CATEGORY	EXAMPLES	N	%

Stimulus control	-Limiting access to money -Avoiding gaming venues	22	30.1
Self-liberation	-Just saying "no" -Using willpower	14	19.2
Counterconditioning	-Keeping busy -Developing new hobbies	14	19.2
Helping relationships	-Going to self-help groups -Using prayer	9	12.3
Unclear/Other/ Don't Know	-Did not actively do anything	6	8.2
Self re-evaluation	-Soul searching -Life with/without gambling	4	5.5
Consciousness raising	-Record keeping	2	2.7
Dramatic relief	-Grieving past losses	1	1.4
Reinforcement management	-Buying something with the money that would have been spent on gambling	1	1.4
Environmental re-evaluation		0	0
Social liberation		0	0

Note: Strategies were provided by 42 participants

Stimulus control was the most frequently used strategy to terminate relapse (30%). Techniques such as self-liberation and counterconditioning were used equally; 20% each. Helping relationships were used 12% of the time while, unclear/other strategies, self re-evaluation, consciousness raising, dramatic relief and reinforcement management were used relatively infrequently. Strategies of environmental re-evaluation and social liberation were not mentioned by any respondents.

Participants' strategies were categorized as being cognitive, behavioural, unclear or

neither (not applicable). Inter-rater agreement for the four categories was 98% ($k = 0.89$). Of the 73 strategies cited, 62% were behavioural, 33% were cognitive, 3% were unclear and 3% were neither. Forty-eight per cent of the participants used at least one cognitive strategy, and 48% of the participants used at least one behavioural strategy. Twenty-six per cent of participants used at least one cognitive and at least one behavioural strategy. As shown in Table 4, men and women were equally likely to use cognitive strategies ($\chi^2 (2, N = 73) = 1.1, p = 0.3$), although there was a trend toward women being more likely than men to use behavioural strategies ($\chi^2 (2, N = 73) = 3.3, p = 0.07$). Table 4 shows the breakdown of cognitive and behavioural strategies.

Table 4

Cognitive and behavioural strategies used at least once by men and women

	Number of Men (N=26)	Number of Women (N=16)	Total
Used at least one cognitive strategy	14	6	20
Used at least one behavioural strategy	16	14	30
Used at least one cognitive and one behavioural strategy	6	5	11

Discussion

The purpose of this study was to examine the reasons and strategies that individuals used to terminate gambling relapse, an area that has been relatively neglected in past research.

The relapse rates in this study were high. Of the larger sample ($N = 101$) from which these participants were taken, 94% relapsed one or more times. These findings and others (e.g. Walker, 1993) emphasize that relapse is a significant problem among

individuals with gambling problems.

There are a number of limitations to the current study. Participants could have listed multiple reasons and/or strategies for terminating their relapses and one person could have been represented within the same category multiple times. It was deemed important to include multiple reasons and strategies to allow for in-depth examination of the multifaceted nature of relapse termination. However, allowing for multiple entries by the same person and/or in the same categories complicates statistical analyses; chi square could not be conducted as the data violated a number of basic assumptions of the test (i.e. independence of ratings and cell sizes greater than 5). Thus, the sparseness of quantitative analyses is reflective of an absence of viable statistical methods to analyze the data emerging from this study.

Other difficulties stem, in part, from interviewer error in the administration of the REI. Interviewers were directed to probe extensively and ask the questions for both the day the individual stopped gambling as well as in a more general way to tap into why they did not go back the next day. However, some interviewers used minimal probing and asked the questions, "What were the main reason(s) for stopping (getting control)?" and "How did you stop your gambling?" in a manner which focused on terminating gambling on the day in question. As a result, there may be a disproportionate representation of "immediate gambling-focused" reasons and strategies for terminating relapse.

Another limitation concerns retrospective bias. Hodgins, el-Guebaly and Armstrong (1995) note that retrospective self-reports can be influenced by personal bias and recall difficulties. Given this, concurrent data collection of relapse episodes as they occur may yield different findings. The results of this study are still valuable, but should be tempered with the knowledge that all data was obtained retrospectively.

Finally, for the sake of parsimony, some smaller categories were subsumed under larger ones. This may overlook subtle nuances in the data.

Motivations for terminating relapse

Individuals' self-reported reasons for terminating gambling relapse were analyzed and a reliable categorization scheme was created. There were 11 main categories and a series of subcategories in the model (see [Table 2](#)).

Roughly one-quarter of the reasons cited for terminating relapse pertained to monetary factors. Participants cited reasons ranging from not being able to borrow any more money, losing all of his or her money, or the unwillingness to pawn possessions to obtain more money. Here, it is clear that reasons and strategies may overlap considerably. People in this category stopped gambling because they ran out of money in the gambling situation, or were lacking funds in general. This may lend support to the utility of getting individuals with gambling problems to engage in some form of stimulus control in order to limit their access to money (i.e. dispose of debit cards and credit cards, etc.) Alternately, reasons related to money may be

stated frequently because as external reasons, perhaps they are the most obvious. Other subtle factors that influence relapse termination may be more difficult to describe verbally. Knowing subsequent relapse rates of individuals who cite monetary factors as being central to terminating relapse would provide a useful starting point for future work in this area.

Affective factors also played a key role in terminating relapse, comprising approximately 20% of the reasons. Blunted affect (e.g. no "high" from gambling, boredom), dislike of the feeling of losing, and feelings of guilt, self-hatred, regret, shame, sadness, frustration, etc., are affective factors that prompted relapse termination. Research suggests behavioural change may be more likely to be initiated and maintained if it stems from internal factors (Curry, Wagner & Grothaus, 1990). It is possible that heightening individuals' emotional awareness may help to alter the course of relapse episodes. For instance, if gamblers are halting their relapses because their emotions become uncomfortable, then it may be valuable if they could be taught to be more cognizant of their emotional reactions to gambling, paying particular attention to negative affect.

Negative affect is a major feature of gambling disorders. The majority (63%) of the sample had some form of past or current mood disorder. This prevalence rate is consistent with current literature (Legg England & Gotestam, 1991; Crockford & el-Guebaly, 1998), which points to the comorbidity between mood disorders and pathological gambling. Suicidal ideation is also common among pathological gamblers (Petry & Armentano, 1999). Notably, 70% of individuals in this study had experienced suicidal ideation, while 28% had made suicide attempts.

Fourteen per cent of the reasons for terminating relapse were related to some form of reappraisal. Within this category, three-quarters of the reasons emerged as having a cognitive component, while the remaining reasons were related to interpersonal reappraisal. Individuals used cognitive techniques to reassess the odds of winning at gambling, to examine their lives without gambling and to explore their beliefs about gambling. Increasing this type of reappraisal is central in cognitive-behavioural therapy (Ladouceur, Boisvert & Dumont, 1994) and in manuals that promote self-change (Hodgins, Currie & el-Guebaly, 2001).

Also of interest within the reappraisal category was the comparative absence of reasons related to interpersonal factors (e.g. noting the effect of gambling on a loved one). The lack of interpersonal influences found in this study stands in contrast to the alcohol studies (i.e. Hodgins et al., 1997; Maisto et al., 1988, 1995) in which interpersonal influences and forms of interpersonal reappraisal (i.e. examining the addiction's impact on family relationships) played a clear role in relapse termination. For people with gambling difficulties, it would appear that interpersonal factors play a less focal role in reasons for relapse termination and a more central role in strategies to terminate relapse.

The absence of reasons related to interpersonal reappraisal and/or interpersonal influences paints an insular picture of the individuals in this study. However, it should

be noted that the use of helping relationships was the fourth most frequent strategy used to terminate relapse. Some possible explanations for these findings may arise from the fact that participants in this study were not being treated with therapies that highlight interpersonal influences in addictions (i.e. behavioural marital therapy) (Maisto et al., 1988, 1995). The absence of interpersonal reappraisal and interpersonal influences may be related to the hidden nature of the disorder, the comparative infancy of the recognition of problem gambling (vs. alcoholism) and the associated lack of public knowledge regarding how to intervene and assist someone with a gambling addiction. There could be considerable utility in exploring how interpersonal factors (or the lack thereof) influence relapse rates.

The fourth largest category of reasons for terminating relapse was that of external constraints, accounting for 12% of all reasons cited. External constraints were reasons such as being too busy (in general or with employment), not having transportation to the gambling venue, or other more situation-focused events (e.g. "the bar closed"). As with monetary factors, this category comprises extrinsic reasons for terminating relapse. The impact of external constraints cannot be discounted; they are important contributors to behavioural alteration. It is possible that external influences such as work commitments or financial constraints may help to initiate change. There may be some validity to the casino intervention programs that deny venue access to gamblers who are on their self-exclusion lists. Future research should explore whether or not it is important that other, more intrinsically based reasons be introduced to maintain change after external factors initiate the change.

In general, the reasons for stopping gambling relapse found in this study were different from those found in the studies of alcohol relapse termination (Maisto et al.; 1988, 1995; O'Malley et al., 1996). For instance, in the study by Maisto and colleagues (1988), people with alcohol problems cited reasons related to personal consequences or events, self-control (e.g. willpower, anticipation of negative events) and external consequences (e.g. treatment admission). As previously discussed, gamblers' reasons were primarily related to monetary factors, affective factors, reappraisal and external constraints. Maisto et al. (1995) found anticipation of problems, emotional consequences of drinking and physical consequences of drinking to be the main reasons for stopping alcohol relapse. Here, there are parallels between the emotional consequence category and the current study's affective category. There may also be a similarity between the physical effects of drinking and the financial effects of gambling.

The categorization system created in the current study differed from the one constructed by Hodgins et al. (1997) and has revealed a number of possible differences in the reasons for terminating relapse between gamblers and people with alcohol problems. It appears as though people with alcohol problems may initially terminate relapse due to immediate addiction-focused reasons (e.g. venue closes, feelings of guilt while engaged in the addictive behaviour, etc.) slightly more often than gamblers. Unlike people with alcohol use problems, few of the gamblers gave reasons that had to do with consideration of future consequences or social influences and interpersonal considerations. These differences, as well as the

similarities between the two addictions, should be explored further within the context of one study with identical data collection methods, using a categorization scheme that covers both gambling and alcohol-related reasons.

Examination of individuals' reasons for terminating gambling relapse has provided a descriptive glimpse at the complex array of factors which can influence behaviour change. It can be seen that situational, interpersonal, physical, emotional and cognitive factors all influence the cessation of gambling behaviour. As there is such a wide range of variables that motivate people to terminate relapse, there may be a concomitant need for a multifaceted range of interventions to help individuals meet their goals.

Future research should explore reasons for termination in more detail. Knowing why individuals terminate relapses (or want to terminate relapse) could potentially result in the selection of more meaningful ways to introduce and maintain change. Additionally, it could help to identify potential roadblocks to recovery. Understanding reasons for termination is a key step towards planning effective gambling treatment programs.

Strategies for terminating relapse

The second goal of this study was to see if the processes of change model (Prochaska et al., 1992) adequately described and predicted the strategies used by individuals to terminate gambling relapse. Participant responses were reliably categorized into the model's 10 main processes (strategies) of change. Eight of the 10 strategies were used to terminate relapse (see Table 3). Fully supporting prior research, the methods of stimulus control, self-liberation, counterconditioning and use of helping relationships were the most frequently reported strategies. Processes of consciousness raising, self re-evaluation, reinforcement management, dramatic relief and "unclear/other" were used relatively infrequently. Environmental re-evaluation and social liberation were not used by any of the participants.

Prochaska et al. (1992) proposed that individuals are likely to utilize the five strategies of counterconditioning, stimulus control, self-liberation, reinforcement management and helping relationships to terminate relapse and move back into the action and maintenance stages of change. The findings of the present study provide support for all but one of these predictions, as use of reinforcement management techniques (e.g. rewarding oneself or being rewarded by others for making changes) was negligible. Hodgins et al. (1997) also found that reinforcement management was not utilized as a means to terminate alcohol relapse (although the four other strategies were). The authors of the study proposed that the use of contingent rewards to halt relapse may be more appropriate to achieve initial smoking cessation (on which the 10 processes of change are based) rather than to terminate alcohol use relapse. It appears as though this proposition may also hold for individuals with gambling difficulties. Individuals experiencing problems with gambling do not use, are not aware of using or do not report using self-reward or external rewards as a means to halt relapse. External rewards (i.e. a spouse being more affectionate when

gambling ceases, removal of financial pressures and money for other life areas) may be subtle or intermittent, and therefore, less likely to be cited as a means to terminate relapse. Use of this strategy generally results in predictable, tangible consequences for discrete self-change events (or lack thereof). Individuals with gambling problems may prefer external consequences to be more intermittent or unpredictable (similar to those in an actual gambling situation) than the continuous reinforcement, self-management strategies that are generally used. The stigma and ideas of "failure" associated with relapsing may deter individuals with gambling difficulties from rewarding themselves when they do terminate relapse. Terminating a relapse episode may be viewed as something that should occur without external reinforcements.

Participants showed a marked preference for using only one type of strategy (i.e. either cognitive or behavioural) to terminate a relapse (see Table 4); only 26.2% of participants used both cognitive and behavioural techniques. Essentially, participants who used cognitive methods seldom used behavioural ones and vice versa. This finding should be explored further, as current gambling interventions promote the use of both cognitive and behavioural strategies for change (Sylvain, Ladouceur & Boisvert, 1997). Treatment programs may need to be tailored to individuals' strategy preferences. Alternately, teaching these individuals to utilize both cognitive and behavioural methods of change may improve success rates.

No gender differences were found in the use of cognitive or behavioural strategies; however, there was a trend for women to use more behavioural means to change. This finding should be examined further with larger sample sizes to see if any significant differences emerge.

Overall, the processes of change model (Prochaska et al., 1992) adequately accounts for the strategies used by individuals to terminate gambling relapse. This points to the versatility of the model, as it can account for both long-term (maintenance) and short-term (relapse termination) strategies used to make behavioural changes.

Follow-up studies should be conducted on the individuals from this study to see if the reasons and strategies they cited as salient to terminating their relapses influenced the course of their gambling problem. Discovering whether or not reasons and strategies change over relapse episodes is also important. It would be useful to know if certain reasons and/or strategies are more predictive of future abstinence and/or shorter relapse episodes than other reasons. If this could be determined, clinical interventions could be aimed at helping gamblers become aware of those reasons and strategies which are more predictive of treatment success. Finally, examining the relationships between relapse precipitants, reasons for terminating relapse and the strategies used to do so could yield valuable treatment information.

The area of relapse termination clearly merits more attention. When the complex process of relapse is more thoroughly understood, clients can be taught the best cognitive, emotional and behavioural change methods to better cope with their

addictions.

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For correspondence:

Kylie L. Thygesen

Department of Psychology

University of Calgary

Admin 240, 2500 University Dr. NW

Calgary, Alberta, Canada AB T2N 1N4

Phone: (413)-210-9522

Fax: (403)-282-8249

E-mail: klthyges@ucalgary.ca

Kylie Louise Thygesen is a project coordinator and research assistant in the Addictive Behaviours Laboratory at the University of Calgary. Her primary research area in the last three years has been in gambling studies. She also works at the addiction centre as a psychology assistant and volunteers as a crisis support line worker with the distress centre.

Daivd Hodgins is a clinical psychologist and associate professor at the University of Calgary. His research interests lie in the area of addictive behaviours, including alcohol and gambling addictions, and comorbid psychiatric disorders. Specifically, he conducts research in the process of recovery from problems including brief motivational interventions. He is also interested in understanding the process of relapse to addictive behaviors.

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Gamblers Anonymous: A critical review of the literature

*By Peter Ferentzy, PhD
Centre for Addiction and Mental Health
Toronto, Ontario, Canada
E-mail: pferentzy@earthlink.net*

*Wayne Skinner, MSW, RSW
Centre for Addiction and Mental Health
Toronto, Ontario, Ca*

Abstract

This study surveys existing literature on Gamblers Anonymous (GA) and issues that help to contextualise our understanding of this mutual aid association. While GA has been the subject of investigation by social scientists, it is still understudied, with a notable shortage of research on issues facing women and ethnic minorities. A need exists for large-scale assessments of GA's effectiveness, more detailed accounts of GA beliefs and practices, increased knowledge of the ways in which GA attendance interacts with both formal treatment and attendance at other mutual aid organisations, and a better understanding of the profiles of gamblers best (and least) suited to GA, along with a clearer grasp of what GA was able to offer those gamblers that it seems to have helped. This assessment of the current state of knowledge underscores the embryonic state of our collective inquiry into the nature of GA, and the authors emphasise that significant advances have been made. Notably, important targets for study

are being identified.

Introduction

Founded in the 1950s, or a little earlier by some accounts (Browne, 1994), Gamblers Anonymous is a mutual aid fellowship based on 12-step principles. GA has groups in most North American communities, and has established itself worldwide as a resource for people struggling with gambling problems. GA has a unique culture of recovery that in certain ways distinguishes it from fellowships such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). The most obvious difference may stem from the crippling financial difficulties many gamblers face: GA devotes much time and energy to counselling members on financial and legal challenges.

GA can be distinguished from formal treatment in that it involves peer support rather than professional intervention, yet its objectives are similar: to help members stop gambling and address character “defects,” such as self-centredness, which are purported to have led to the excessive gambling (Custer & Milt, 1985). However, what really distinguishes GA from formal treatment is not only the power of group dynamics, which institutions often provide, but that practitioners have no involvement. Since gamblers only receive help from other gamblers at GA, both the terms “self-help” and “mutual aid” are salient concepts for understanding this distinction. Part of a larger mutual aid and self-help movement based upon the 12 Steps of AA, and focussed upon compulsive behaviour that need not involve psychoactive substances, GA provides an excellent example of how the 12-step movement has been extended well beyond alcoholism to include other behaviours which can disrupt people's lives.

GA's effectiveness: How it works

When discussions of GA were in their infancy, endorsements were often less guarded than in current assessments (Custer 1982b; Custer & Milt, 1985; Winston & Harris, 1984), though GA's inability to deal with certain psychiatric issues has long been acknowledged (Custer & Milt, 1985). Since then, more researchers have come to perceive GA as helpful but incomplete and likely to be more effective in conjunction with other interventions. Such assessments are often based on three considerations:

1. greater attention to the significance of co-occurring substance addictions (Lesieur & Blume, 1991a);
2. more attention to GA's inability to address other special needs (Rosenthal, 1992);

3. concerns about the small percentage of gamblers who achieve abstinence after trying GA (Lesieur and Blume, 1991a; Petry, 2002). (For example, Stewart and Brown (1988) found that out of a sample of 232 attendees 8% had remained completely abstinent and active in the fellowship one year after their first meeting, and about 7% after two years.

There are also questions pertaining to the type of gambler for which GA is effective. Blaszczynski (2000) has claimed that GA is suitable only for gamblers free of other compounding issues, meaning gamblers who are essentially “normal” save for the gambling problem itself. Yet Blaszczynski (2000) also claims that such gamblers, being relatively well adjusted, are good candidates for moderation instead of abstinence goals, throwing into question their suitability for a program that insists on abstinence. Brown (1986, 1987a, 1987c) has found that gamblers able to moderate their gambling activity are unlikely to stay for long at GA. Further, Brown has argued that GA may suit only the most severe cases as the GA ideology involves the need to “hit bottom” (often called one's “personal low” in GA) and demands abstinence, which, as both Brown and Blaszczynski state, may not be necessary for less troubled gamblers. Brown (1987a, 1987b, 1987c) found that precisely those gamblers who perceived themselves as less troubled were more likely to leave GA. Stirpe (1995) has also argued that GA is appropriate mainly for severe cases. In short, the ideology of “hitting bottom” insists that one must be at the brink — not just financially, but also emotionally — and tends to alienate those who simply cannot relate. Conversely, Blaszczynski's point is that a compulsive gambler with pressing psychiatric difficulties may require more serious intervention than a non-professional society can offer.

This brings to light why the term “effectiveness” in the literature often refers to more than just gambling cessation. Browne (1991, 1994) has discussed GA's lesser emphasis on the 12 Steps and spirituality than AA, and GA's more pragmatic focus upon the gambling itself and issues such as debt. For this reason, Browne considers GA less effective than AA, which puts more focus on the whole self, as an overall therapy. Browne (1991) has also suggested that the relative absence of spiritual and introspective therapies may alienate women and certain minorities. Yet, according to Browne (1991), “12-step consciousness” can be found among GA members affiliated with other 12-step fellowships. Lesieur (1990) has made similar observations. This adds weight to suggestions that GA is incomplete on its own (Lesieur & Blume, 1991a; Rosenthal, 1992; Petry, 2002) and should be judged on how it can complement other interventions.

Many have argued that a program can be “effective” even if it reduces

gambling activity without achieving long-term abstinence (Blaszczynski, McConaghy & Frankonova, 1991), and despite philosophical discrepancies, there is no reason to presume that GA could not play a role in such outcomes. It has long been recognised that GA may have a positive effect even on those who attend only once or twice (Allock, 1986).

Yet, given the existing state of knowledge, GA's appropriate role is still open to speculation. While most North American gambling treatment programs use GA as an adjunct, a comprehensive understanding of GA's inner workings — its recovery culture and the types of narratives it employs — is lacking. This is due to a dearth of direct observational accounts of GA meetings. There is no shortage of attempts to evaluate GA in various ways (Abt & McGurrin, 1991; Allock, 1986; Brown, 1985; Canadian Foundation of Compulsive Gambling (Ontario), 1996; Custer, 1982b; Petry, 2002; Potenza, 2002; Preston & Smith, 1985; Rosenthal, 1992; Steinberg, 1993; Stewart & Brown, 1988; Turner & Saunders, 1990; Walker, 1992). Yet Petry (2002) grants that evaluations of GA's efficacy remain tenuous given the current state of knowledge, and argues that large-scale controlled studies of various interventions are necessary for a clearer grasp of what really works for pathological gamblers (though Brown (1985) has discussed some of the difficulties involved in attempting to assess an anonymous fellowship such as GA). GA members have also been studied outside GA to gauge psychological and other issues (Getty, Watson & Frisch, 2000; Kramer, 1988; Lorenz & Yaffee, 1986; Whitman-Raymond, 1988); however, little descriptive work has been done on the workings of GA itself.

Livingston (1971) provided information that by today's standards is introductory. Brown (1986, 1987a, 1987b, 1987c) has carried out some of the most useful work on the subject of GA, especially regarding the question of why some members drop out. As might be expected, he found that those who left were more likely to consider the talk at meetings to be “meaningless” and were more critical of GA literature than those who remained (Brown, 1987b). Brown (1986) also found that those who were overly elated at their first meeting were more likely to become disenchanted later on than those with a more balanced initial impression.

Yet these studies relied upon interviews without accompanying observation of GA meetings, so no detailed account is given of what exactly was dismissed as meaningless. Further, since a solid descriptive base is lacking, we are left with speculative evaluation. For example, Brown (1987a, 1987c) found that only gamblers with the most severe problems, or at least those who perceived their problems as most severe, were likely to remain in GA. Possible explanations for this remain unverified: Brown (1987a) speculates that perhaps some members take pride (possibly competitive pride) in the

extreme nature of their gambling careers, with the corollary that many members must either embellish their own stories or be unacknowledged and socially sidelined. Direct observation accompanied by interviews would be needed to verify the existence of such a cultural dynamic and describe its workings.

The study of GA's effectiveness is best understood as a work-in-progress, with important advances identifying better research targets yet still haunted by gaps in available knowledge. When Brown began his studies of GA, little observational work on GA had been done (Cromer, 1978; Livingston, 1971; Scodel, 1964), and both Cromer and Scodel delivered mainly interesting theoretical discussions and only brief empirical accounts of GA's workings. Preston and Smith (1985) claimed that AA is more effective with people with alcohol problems than GA with gamblers, partly because AA's physical disease conception of an "allergy" to alcohol facilitates "re-labelling," thereby helping to deflect guilt and shame.

While providing valuable insight into the importance of belief systems in mutual aid, Preston and Smith (1985) were nonetheless operating on the premise that the AA and GA programs were virtually identical. Later, Browne (1991, 1994) explored the differences between AA and GA. While this involved some discussion of GA's "consciousness" (1991), such as the lesser importance attached to discussing one's feelings than in AA, little attention was paid to how much feelings are actually addressed in GA because Browne's studies are to a large extent comparative. They are also more evaluative than descriptive, containing (beyond criticisms already mentioned) a critical account of GA's version of its own history (Browne, 1994). Browne's work does contain some important descriptive material based on direct observation, but does not provide a detailed account of what transpires at GA meetings.

Similar limitations apply to the account given by Turner and Saunders (1990) after a one-year observational study. Critical of the medical model, these authors discuss the moral and emotional implications of GA narratives and practices. They also mention GA's confrontational style as alienating to many newcomers. (McCown & Chamberlain (2000) also describe GA as more confrontational than AA.) Still, the narratives and practices are discussed primarily in terms of their negative implications rather than their actual content. It is possible to appreciate a commentary on the ways in which the medical model alienates those who do not conform to it, yet still question the validity of a critique that hinges largely upon the unattainability of an "ideal self" to which members aspire. The latter, after all, could be said of most spiritual and psycho-emotional endeavours. In any event, despite some significant descriptive observations, one is left mostly in the dark about how

GA actually operates.

GA's own literature gives some vindication to Browne's (1991, 1994) contention that "GA consciousness" is pragmatic. The "pressure group," for example, sets GA apart from substance use-oriented mutual aid societies in that GA members take newcomers to task over financial and other issues to help them to "get honest" with their spouses and get their affairs in order (GANSO, 1978). Browne (1991) discusses GA's "Page 17 consciousness," referring to a set of practical (rather than spiritual or psychological) principles found in GA's most important text (GAISO, 1999).

Overall, the available literature does vindicate GA in other, less direct ways. GA's collective wisdom has demonstrated some scientific merit: the 20 Questions GA poses to help gamblers determine whether they need help compares favourably with other, professionally developed diagnostic instruments (Ursua & Uribe Larrea, 1998). As well, commentators generally appreciate that GA provides social support that professionals could rarely imitate (Rugle & Rosenthal, 1994). Ogborne (1978) has argued that modalities are less important to success than the stability and support (such as family networks) a client brings to treatment, and gamblers with social support have been found to achieve longer term abstinence than those without it (Stein, 1993). Davison, Pennebaker and Dickerson (2000) found that AA members lacking outside support adhere more closely to AA's program, and that alienation from one's normal support networks may lead people to mutual aid; that mutual aid can alleviate isolation through peer support and encouragement. Walker (1992) claims that GA's main strength lies in its collective belief that compulsive gambling can be beaten.

These endorsements of the mutual aid approach are not unique to GA, and stem from a growing awareness of the importance of social support in general. Involvement in mutual aid has also been associated with better results with biological afflictions such as breast cancer (Davison et al., 2000). Little is known about what, if anything, GA offers beyond peer support. Whether GA's recovery program has merit in and of itself, and if so, for which type of gambler, remains undetermined.

To further complicate matters, questions concerning effectiveness are often laden with assumptions. For example, the answer to whether GA's insistence on abstinence is the best approach, good for some but not for others — or even potentially harmful — hinges upon ideas about the nature of compulsive gambling itself. We now turn to this issue.

The nature of problem gambling

Pathological gambling has been called a “pure” addiction because people feel compelled to pursue and continue the gambling activity even though no mind-altering drugs are involved (Rosenthal, 1992). GA uses the disease model, and the way GA is perceived is greatly affected by the extent to which this model is accepted. The most prominent view of pathological gambling, at least in North America, is the standard disease model of addiction, the so-called medical model. Even if the DSM IV (APA, 1994) calls pathological gambling an impulse control disorder, its description of the problem is quite compatible with (and indeed embedded in) the medical model.

The disease conception of addiction involves a few major tenets:

1. Addiction is a primary disease, the cause rather than the symptom of other difficulties.
2. Addiction is progressive, meaning that untreated it can only get worse.
3. Addiction is chronic, meaning that it can be arrested but never cured (hence, abstinent subjects must forever remain on guard).
4. Abstinence is the only solution (Alcoholics Anonymous World Services Inc., 1976; GAISO, 1999; Peele, 1989; World Service Office (WSO) Inc., 1982).

Despite the designation “primary disease,” medical model proponents in the alcoholism field have pointed out that disease primacy need not involve chronological priority. Even if an addiction emerged due to other factors, it can be “primary” once it has taken effect, in the sense that alleviating the initial causes alone would not arrest the addiction (Flavin & Morse, 1991). According to this view, the main consideration is that “active addiction” is not merely a symptom of other difficulties. The disease model (and by implication GA) can, therefore, be compatible with psychodynamic, psychobiological and other explanations for the problem's onset.

A cursory glance at the literature could easily give the false impression that the medical model is out of favour: it would seem to have more critics than champions. This is mainly a sign of the model's dominance. Its adherents do not necessarily defend it directly, often preferring to vindicate all or most of its tenets explicitly or implicitly. Critics of this model rarely deny that it dominates; instead, argue that it should not (Abt & McGurrin, 1991; Peele, 1989, 2001; Sartin, 1988; Turner & Saunders, 1990). Also, it is common for researchers critical of aspects of the disease model to support other tenets and advocate co-operation with GA and its disease orientation. For example, Whitman-Raymond (1988), while at odds with the notion of disease primacy, as it downplays the importance of psychoanalytic determinants, believes that

psychoanalysts should collaborate closely with GA. Authors with more sympathy for the medical model of compulsive gambling have even pointed out that newly abstinent gamblers can experience physical withdrawal (Rosenthal & Lesieur, 1992). Blume (1986, 1987) sidesteps questions concerning the disease model's scientific validity by simply claiming that it has proven useful for treatment.

Walker (1992) claims that problem gambling research has been overly reliant on data obtained from GA members and other gamblers in treatment who may have internalised the medical model and may, therefore, be likely to reconstruct their past experiences in accordance with its tenets. Moreyra, Ibanez, Liebowitz, Saiz-Ruiz and Blanco (2002) argue that most research suggests that pathological gambling more closely resembles a substance use disorder than an obsessive-compulsive disorder, but mention that the addiction and obsession-compulsion models are not mutually exclusive. They also mention that since most research on pathological gambling has come from the substance use treatment field, many findings could be biased in that direction. Given that substance addiction treatment in North American generally operates along disease model lines and that the late 20th-century trend was to view a host of psychobehavioral ailments in this fashion (often in reference to AA's alcoholism model) (Peele, 1989), it is not surprising that problem gambling theory and practice have followed suit. This trend has been challenged, of course, often because of its propensity to reduce all pathological gambling to one formula (Blaszczynski & McConaghy, 1989).

The existing literature does offer alternatives to the medical model. It has been argued that, since problem gamblers score high for both impulsivity and obsessiveness, "obsessive-compulsive spectrum disorder" would be a better designation (Blaszczynski, 1999). Some have argued in favour of an overall propensity to addiction, insisting that problem gambling is simply a subset and should not be treated as an independent problem (Jacobs, 1987; Jacobs, Marston & Singer, 1985) while others have challenged that view (Blaszczynski & McConaghy, 1989; Briggs, Goodin & Nelson, 1996; Rozin & Stoess, 1993b). Pathological gambling has been associated with risky sexual behaviour (Rozin & Stoess, 1993a) and with impulsivity (Blaszczynski, 1999; Castellani & Ruggle, 1995), yet, at least, the latter view has been challenged (Allock & Grace, 1988). Many view compulsive gambling primarily in psycho-emotional terms (Sartin, 1988; Taber, Russo, Adkins & McCormick, 1986). Brown (1993) has argued that a non-substance addiction such as gambling requires more focus on purely psychological processes and, thus, could steer understanding of other addictions in similar directions.

Despite the medical model's primacy, there seems to be a trend toward identifying subtypes of problem and compulsive gamblers, which connotes

that the medical model — and by implication GA's approach — could not apply to all cases (Blaszczynski, 2000; Blaszczynski & Nower, 2002; Peele, 2001; Potenza, 2002). The emphasis on typology involves, among other things, the view that two individuals might exhibit similar behaviours for completely different reasons. Blaszczynski (2000) can be taken as an exemplar when he divides gamblers into three types: those whose gambling is rooted in genetic difficulties, those with underlying emotional difficulties, and those who are essentially “normal” save for the gambling problem itself. Brown (1986, 1987a, 1987b, 1987c) was already pointing to the importance of subtypes when attempting to determine what type of gambler is likely to remain in GA. Along these lines, some have argued that the complexities of problem gambling suggest that it is a syndrome rather than a single disorder (Griffiths, Parke & Wood, 2002; Shaffer & Korn, 2002). Berger (1988) has discussed different personalities attracted to different games of chance whereas Dickerson (1993) has argued that different games produce different types of compulsion.

Perhaps the most controversial implication of the different views on the nature of compulsive gambling is an issue in approaches to other addictions as well: is abstinence the only solution?

The abstinence principle

GA insists upon abstinence; hence, debates over this principle apply directly to evaluations of GA's program of recovery. Arguably the medical model's most important tenet, the abstinence principle has many critics. Some have argued that the call for abstinence has both positive and negative features (Murray, 2001) while others have been unequivocally critical (Peele, 2001; Rosecrance, 1988; Sartin, 1988). Most common is the claim that abstinence should not be considered the only solution (Blaszczynski, 2000; Blaszczynski et al., 1991; Blaszczynski & McConaghy, 1989; Peele, 2001; Walker, 1992, 1993); it has long been argued that GA's call for abstinence may alienate those who do not have the same view (Brown, 1987b).

As a subset of the medical model, the abstinence principle might appear to have more detractors than supporters, but that would be inaccurate. Many in the field do not defend abstinence explicitly; however, as the dominant solution, abstinence is often the primary or exclusive measure of recovery success rather than the achievement of less harmful gambling patterns (Johnson & Nora, 1992; Maurer, 1985; Rosenthal & Rugle, 1994; Taber, McCormick, Russo, Adkins & Ramirez, 1987). McCown & Chamberlain (2000) provide a more up-to-date defence of abstinence as a goal in which they discuss reduced gambling activity, though primarily with reference to clients who target abstinence.

There is little in the gambling literature on the virtues or drawbacks of abstinence to distinguish it from more thoroughly developed discussions of these ideas related to substance use problems. Rankin (1982) has argued that since physical dependence is often the criteria for suggesting abstinence in cases of alcoholism, the application of this principle for gamblers is tenuous. Viets and Miller (1997) have pointed out that, in the problem gambling field, even definitions of abstinence hinge upon definitions of gambling. For the most part, however, ideas about abstinence are not specific to gambling, and the gambling literature would benefit from greater attention to theoretical discussions of the abstinence principle's role in recovery.

Many perceive the abstinence principle in terms of its ideological function. While critics such as Turner and Saunders (1990) consider GA members' internalisation of the medical model to be comparable to collective brainwashing, the designation "ideology" need not be derogatory. Rather than attacking or defending the belief in abstinence, many researchers prefer to study the ways in which the principle operates. The acceptance of abstinence by a person with an addiction has been viewed as part of a larger belief system regarding the nature of, and solution to, the problem in question. Antze (1979) has discussed the ways in which mutual aid depends upon mutual identification and internalisation of the group's belief system. Valverde (1998) has claimed that abstinence in AA is not so much a tyranny over desires but a pragmatic reconstruction of habits rooted in strands of 20th-century philosophy as well as ancient, pre-scientific wisdom. In their study of the 12-step-based (AA and NA) Minnesota Model, Keene and Rayner (1993) found the approach favoured those with compatible belief systems (e.g. agreement with the medical model, positive attitudes toward spirituality). Keene and Rayner recommended that clients be served by approaches and theories consistent with their own ways of thinking. There is some evidence for "cognitive profiles" applicable to many AA members (Ogborne & Glaser, 1981), suggesting that similar work could be done on the personality and cognitive profiles of GA members: Are they field-dependent? Do they demonstrate authoritarian attitudes and an often accompanying need for simple, clear answers, such as abstinence? Work already done on AA members could help researchers in the gambling field move ahead more quickly than AA research pioneers were able to in this area.

Despite its popularity, many researchers are coming to the conclusion that while the abstinence principle may be helpful for some gamblers it could be harmful to others. Given that such questions are nowhere close to settled even in the substance addiction fields, we should not expect consensus among gambling researchers anytime soon.

GA in conjunction with other interventions

Despite the range of opinions about GA's effectiveness and appropriate function, one would be hard-pressed to find critics claiming that GA should have no place at all. GA's cost-effectiveness will ensure that it continues to play a role even if other approaches are found superior (Walker, 1993). Also, GA is recognised as the most widely available option for problem gamblers on this continent (Viets & Miller, 1997).

All this may help to explain why many efforts have been made to demonstrate GA's compatibility with certain professional approaches, which is not to suggest that compatibility studies are simply self-serving. Often such studies are guided by a belief that co-operation should replace ideologically rooted competition (Toneatto, n.d.). Some have argued for the compatibility of GA with cognitive and cognitive-behavioural approaches (Problem and Compulsive Gambling Advanced Workshop, 1986; Toneatto, n.d.). Arguments have also been made regarding GA's compatibility with psychoanalytic methods (Maurer, 1982; Rosenthal & Rugle, 1994; Rugle & Rosenthal, 1994; Whitman-Raymond, 1988). Overall, compatibility studies have raised points worthy of further exploration. For example, "denial" has long been the main target of both addiction treatment and psychoanalysis; and cognitive therapy, while diverging with 12-step recovery in some respects, also involves deference to certain principles and shares the disease model's emphasis on rooting out self-destructive thought patterns (Toneatto, n.d.).

Overall, studies have suggested that GA attendance in conjunction with professional therapy can yield positive outcomes. Lesieur & Blume (1991a), Russo, Taber and Ramirez (1984) and Taber et al. (1987) followed up clients who had completed such combined programs and each study found abstinence rates of over 50% among clients contacted at various points after discharge. While agreeing that these results suggest that GA in combination with professional therapy produces better results than GA alone, Petry (2002) claims that the studies contain methodological flaws: "One problem is therapy was not specifically described, so replication is not possible." Petry (2002) concludes that more work needs to be done in this area.

Because some other mutual aid groups share a common grounding in the disease model and a recovery architecture built on the 12 Steps, GA's potential interaction with these groups emerges as an issue for consideration. Unfortunately, little work has been done on GA members who also attend AA, and NA has received even less attention, though Lesieur and Blume (1991a) do discuss a treatment program that made use of client specific combinations of GA, AA and NA. Both Browne (1991) and Lesieur (1990) have mentioned

that concurrent attendance at other mutual aid groups can have a positive effect on some gamblers. Lesieur (1988), aware of the many issues that often accompany compulsive gambling, laments the way most self-help societies discourage talk of multiple addictions, and even suggests that an anonymous fellowship be created for that purpose.

There is enough in the literature to suggest that NA should be studied as an option for filling the void Lesieur identified (Peyrot, 1985; Rafalovich, 1999; Wells, 1994) even though it could only be of use to gamblers with substance use problems. Whereas AA has been inconsistent in its toleration of discussions of problems other than alcohol use, NA may be the only large-scale mutual aid society designed expressly for members to discuss all their obsessions and compulsions (WSO, 1982). While most mutual aid movements cut from the AA mould are focused, like GA, on a single issue (alcohol, eating, gambling, cocaine), NA promotes the broader concepts of "addict" and "addiction." Unlike AA, NA has no substance-specific conception of physical addiction; it is rooted in a notion of personality traits similar to an addictive personality concept (Peyrot, 1985; WSO, 1982).

Since researchers have argued that GA works best in conjunction with other interventions (Lesieur & Blume, 1991a; Rosenthal, 1992; Petry, 2002), and since most treatment programs make use of GA, though some researchers (Browne, 1991, 1994; Lesieur, 1990) have criticised its lack of attention to emotional issues, the ways in which GA attendance interacts with other approaches presents itself as a research priority.

Gambling and co-occurring substance addictions

It is hard to tell what percentage of GA members have co-occurring substance use issues, though it is safe to assume that levels are considerably higher than in the general population. For example, a study of female GA members found their rate of substance use problems to be two to three times as high as that of the general female population (Lesieur & Blume, 1991b). Studies have suggested that slightly over half of GA members have abused either alcohol or other drugs at some point (Lesieur, 1988; Linden, Pope & Jonas, 1986). But work done so far has been preliminary (Linden et al., 1986; Lesieur & Blume, 1991a, 1991b) and, since there is good cause to believe that GA's membership has undergone recent changes, even the little available knowledge must be considered dated.

While estimates vary, researchers agree that problem gamblers have higher rates of substance use problems than the general population (Crockford & el-Guebaly, 1998; Canadian Foundation of Compulsive Gambling, (Ontario), 1996; Griffiths et al., 2002; Lesieur & Heineman, 1988; Spunt, Dupont,

Lesieur, Liberty & Hunt, 1998). The only comprehensive study on drinking problems among problem gamblers in Ontario (Smart & Ferris, 1996) suggested that potential alcohol (and other drug) problems be taken into account when gamblers are being assessed. Yet this same study pointed to large discrepancies between different prevalence estimates. And even if varying definitions of substance use problems are taken into account to explain these discrepancies, some researchers have identified the need for harder data (preferably based on meta-analysis) of the overall prevalence of substance use problems among problem gamblers (*The Wager*, 2002). To be blunt, while everyone agrees that problem gamblers (and by implication GA members) are prone to substance use difficulties and that this fact should be taken into consideration during assessment, we are nowhere close to providing solid numbers. One short-term approach may be to take substance use findings and then work “backwards” in order to get a sense of the situation. For example, Steinberg, Kosten and Rounsaville (1992) found that 15% of cocaine users under study were pathological gamblers. Spunt et al. (1998) interpreted the available evidence to suggest that problem gambling rates among people with substance use problems are four to 10 times that of the general population, but they point to a shortage of research in this area as well

One can only speculate about the current prevalence of co-occurring substance difficulties among GA members. Yet Blaszczyński and Nower (2002) may provide a clue. They argue that problem gamblers without serious psychiatric and other difficulties are less likely to have substance use issues than more troubled gamblers, and claim that this kind of gambling pathology is almost entirely dependent upon availability and accessibility of gambling venues. Given the growing number of legal gambling options, one might expect a higher percentage of this type of gambler. Hence, it is at least possible that a growing percentage of new GA members are free of compounding issues such as substance use problems.

GA and gender

GA has been described as a predominantly male fellowship, both in composition and in attitude (Mark & Lesieur, 1992). Research on GA has, perhaps unintentionally, reflected this bias as little work has been done on female GA members. Twenty years ago, Custer (1982a) reported that only about four per cent of GA members were women. Yet, more recently, Strachan & Custer (1993) noted that, at least in Las Vegas, more than half of GA members were women. While available information is probably dated, it is safe to assume that GA remains predominantly male but that the number of women members is increasing. This is partly due to demographics: while most pathological gamblers have traditionally been male, the number of

female pathological gamblers has been growing (McAleavy, 1995; Spunt et al., 1998; Volberg, 1994). Further, an increasing sensitivity within GA to the concerns of women has been noted (Murray, 2001).

While GA plays a major role in the treatment of problem gambling, its approach to gender issues has been identified as especially significant. Since many (possibly a majority) of clients are referred to gambling treatment through GA, it has been argued that GA's exclusion of women has inhibited women's participation in formal gambling treatment as well (Spunt et al., 1998; Volberg & Steadman, 1989; Volberg; 1994).

Browne (1991, 1994) has suggested that GA's neglect of spirituality and interpersonal and psycho-emotional issues inhibits women's involvement. Lesieur (1988) has argued that the opportunity to discuss a host of compulsions (rather than merely the targeted addiction) is important to women. Since then, studies have confirmed these suspicions. Crisp et al. (2000) found that male gamblers were more likely to report "external concerns" (employment, legal) as important whereas women reported more concerns with physical and interpersonal issues. These results suggest that women may require more supportive counselling and psychotherapy whereas men seek information-sharing and cognitive restructuring. Hraba and Lee (1996) found that whereas alcohol was more likely to trigger problem gambling in men, women were more influenced by social issues, such as estrangement from conventional lifestyles and immersion in social settings that involve gambling.

While one can argue that GA's effectiveness is limited to clients without "special needs" (Rosenthal, 1992), to whatever extent women's concerns are considered special needs is simply a measure of their exclusion. Differences have been noted between male and female GA members. Getty et al. (2000) found that women in GA have higher rates of depression than men. In a study of women from GA, Lesieur and Blume (1991b) found that women were less likely to have begun gambling for the thrill; instead, they were seeking ways to escape problems in their lives.

Despite the dearth of material on women who gamble, we are discovering that much of what we know about women with other addictions (and their differences from men) may apply to women who gamble. This is not a substitute for direct knowledge of female gamblers, but it permits us to extrapolate until further research takes place and should help to guide further research. Tavares, Zilberman, Beites and Gentil (2001) found that, as with other addictions, compulsive gambling progresses more quickly in women than men. Toneatto and Skinner (2000) found that, compared to males, female gamblers reported more use of psychiatric medications, notably

antidepressants and sedatives. Further, whereas men were more likely to consume alcohol in the month prior to seeking treatment, there were no significant gender differences with illicit substance use. Toneatto and Skinner (2000) point out that overall these ratios are consistent with gender differences throughout the general population, even if the prevalence of use was higher. Mark and Lesieur (1992), critical of GA as male dominated, argue that its tendency to produce a “men's club atmosphere” should be taken into account by researchers. They suggest, for example, the sharing of “war stories” (graphic, often ugly recollections of a person's history of addiction), by male GA members may alienate women. This suggestion is clearly indebted to our experience with the treatment of other addictions. Many drug treatment settings, along with a number of NA and AA groups, have long discouraged “war stories,” “drunk-alogues” and the like — at least in part because of how they affect women.

In fairness, GA has a history of acknowledging women's needs in at least one respect. GA's recovery culture reflects the template that originated with AA through the emergence GamAnon, a support fellowship for spouses, family members and other individuals whose lives have been negatively affected by someone with gambling problems. A review of the GA meeting list for Ontario indicates that these groups typically meet at the same time and location as GA groups. This format of double meetings suggests that GA and GamAnon might be more interdependent than similar mutual aid groups in other domains.

Significantly, female gamblers who attend GA have received less attention than female members of GamAnon, which deals with (predominantly female) spouses or partners of GA members (Adkins, 1988; Bellringer, 1999; Canadian Foundation of Compulsive Gambling (Ontario), 1996; Ciarrocchi & Reinert, 1993; Heineman, 1987, 1992; Lorenz & Yaffee, 1985, 1986, 1988, 1989; Maurer, 1985; Moody, 1990; Steinberg, 1993; Zion, Tracy & Abell, 1991). As it stands from a research perspective, women have received more attention as wives and partners of GA members than as GA members themselves.

GA and ethnicity

If GA's alienation of women also interferes with their likelihood of attending formal treatment (Spunt et al., 1998; Volberg & Steadman, 1989; Volberg; 1994) then this would apply to excluded ethnocultural groups as well.

The available literature is not very helpful on GA and ethnicity, though it has been discussed (Ciarrocchi & Manor, 1988; Custer & Milt, 1985; Livingston, 1971; Sagarin, 1969). Browne (1991) has suggested that GA's rejection of

inner searching could alienate certain ethnocultural groups, and has commented (1994) on how many members of GA are either Jewish or Italian. While it has been argued that cultures where drunkenness is relatively uncommon (e.g. Jewish) have been more prone to gambling (Adler & Goleman, 1969), little work has been done on the implications of and reasons for GA's ethnocultural composition. Further, given that the world of gambling has been changing in recent years due to the proliferation of legal gambling venues, the available knowledge in these areas is probably dated.

Conclusion

A review of the literature on Gamblers Anonymous points out the paucity of knowledge we have about this approach to recovery despite its pivotal role in our overall efforts to assist people with gambling problems. GA remains a black box about which we know too little. There would be real benefits to a detailed and sophisticated understanding of the processes and events of GA that contribute to its success with some individuals and its lack of success with others. Such a knowledge base would require qualitative and ethnographic research methods, involving respect for GA as a positive social site of human interaction where meaning is constructed for and by those who participate. Large-scale, controlled studies of GA's efficacy (alone and in conjunction with other interventions) are also an important priority. Such studies could also provide knowledge of GA's ethnocultural and gender composition as well as rates (and implications) of substance use problems among GA members. Since formal treatment programs normally suggest (and often insist upon) GA attendance, the ways in which GA can compliment — or hinder — various types of treatment is an immediate concern.

Issues pertaining to overall effectiveness, co-ordination with other interventions, gender, substance use and appropriate GA member profiles have all been identified in the literature as key targets of inquiry. Surprisingly, however, the research community has had less to say about the need to explore GA's ethnocultural composition and the need to observe GA directly. Nonetheless, since major gaps in our current knowledge of GA have been identified, we can now point with more clarity to the ways in which future studies of this fellowship ought to proceed.

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Peter Ferentzy is a research fellow in the concurrent disorders program at Ontario's Centre for Addiction and Mental Health. His first book, How Addiction Became a Disease, was provisionally accepted by the University of Toronto Press. He currently conducts research on mutual-aid solutions to compulsive gambling and co-occurring substance abuse problems.

Wayne Skinner, MSW, RSW is the clinical director of the concurrent

disorders program and the problem gambling service of the Centre for Addiction and Mental Health in Toronto, Canada. He has over twenty-five years experience as a clinician, supervisor, researcher, consultant and educator. Wayne is an assistant professor in the department of psychiatry at the University of Toronto. He also directs and teaches in the addiction studies certificate program in continuing education at the University of Toronto. He is presently co-investigator on several research studies involving problem gambling and is editing a clinical handbook on the treatment of co-occurring addiction and mental health problems.

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Instant-win products and prize draws: Are these forms of gambling?



*By Mark Griffiths, PhD
Psychology Division
Nottingham Trent University, Nottingham,
United Kingdom
E-mail: mark.griffiths@ntu.ac.uk*

Abstract

Instant-win marketing and prize draws are not particularly new but many companies (particularly in the U.K.) appear to be aiming them at younger age groups. This brief paper argues that some children appear to "chase" their losses on instant-win products in the same way a gambler chases losses, and that they are a form of adolescent gambling or, at the least, a gambling precursor. This paper also briefly overviews the prize draw culture in the U.K. Policy recommendations for both instant-win and prize draw products are outlined.

Introduction

Consider the following scenario:

A nine-year-old boy walks into a shop and buys a packet of potato chips. An eight-year-old girl walks into the same shop and buys a chocolate bar. Nothing particularly unusual except this particular packet of potato chips poses the question "Is there a spicy £100,000 inside?" in big letters on the front of the packet with the added rider "1000's of real £5 notes to be won!" The bar of chocolate offers "£1 million in cash prizes — win instantly. Look inside to see if you're a winner!!" The boy opens up the bag of crisps but it contains nothing but crisps. He is very disappointed. The little girl opens up the chocolate bar and sees the all-too-familiar phrase "Sorry. You haven't won this time but keep trying. Remember there's £1 million in cash prizes to be won." She too is very disappointed. Both of them decide to buy the product again to see if their luck will change. It doesn't. This time a different chocolate bar reads, "Sorry this is not a winning bar. Better luck next time!" The most they are likely to win is another packet of crisps or chocolate.

This scenario describes a typical instant-win product (a consumer buys a particular product with the chance of instantly winning something else of financial value). This type of instant-win marketing has been around for some time and is not particularly new, but many companies (particularly in the U.K.) appear to be aiming it at a younger age group. In a different environment, it could be argued that these two children are "chasing" their losses in the same way gamblers chase theirs.

After losing money in gambling activities, gamblers often gamble again straight away or return another day in order to get even. This is commonly referred to as "chasing" one's losses. Chasing is symptomatic of problem gambling and is often characterized by unrealistic optimism on the gambler's part. All bets are made in an effort to recoup their losses (Lesieur, 1984). The result is that instead of "cutting their losses" gamblers get deeper into debt. They preoccupy themselves with gambling, determined that a big win will repay their loans and solve all their problems. Although not on this scale, the scenario outlined at the start of this paper appears to be a chasing-like experience akin to that found in gambling. To children, this type of behaviour as a whole appears to be a gambling-type experience and is similar to other gambling pre-cursors that have been highlighted in the literature such as the playing of marbles and card flipping (Griffiths, 1989; 1995).

Products like crisps and chocolate are popular and appeal not only to the young but to adults too. However, the fact that such promotions are often

coupled with the appearance of teenage idols (e.g. famous pop groups such as the Spice Girls, or top soccer sporting heroes) suggests that it is the younger generation that is being targeted. Whether this is a deliberate ploy or whether it is a coincidence remains to be seen. Other manufacturers include free gifts (e.g. stickers, tazos, stand-up cards, etc.) aimed directly at the under-14 market. Many of these children buy these products in the hope they will get one of the free gifts. Like the offer of instant cash prizes, these promotions advise in the small print on the back that "no purchase is necessary."

Manufacturers of instant-win products claim that people buy their products because customers want them. They further claim that the appeal of a promotion is secondary to the appeal of the product. This may well be true with most people but instant-win promotions obviously increase sales otherwise so many companies would not resort to them in the first place. It would appear that most people have no problem on moral (or other) grounds with companies who use this type of promotion. However, there are those (such as those who work in the area of youth gambling) who wonder whether this type of promotion in some way exploits a group of people that may be vulnerable (i.e. children and adolescents). The question to ask is whether young children and adolescents are actually engaging in a form of gambling by buying these types of products.

Gambling is normally defined as the staking of money (or something of financial value) on the uncertain outcome of a future event. Technically, instant-win promotions are not a form of gambling because the manufacturers are required by law to state that no purchase is necessary. This whole practice is little more than a lottery except that in small letters at the bottom of the packet there is the added phrase "No purchase necessary — see back for details." However, few people would notice this, and furthermore, the likelihood is that most people would not take the steps to enter the draw this way — particularly children and adolescents.

The small print usually reads: *"No purchase necessary. Should you wish to enter this promotion without purchasing a promotional pack, please send your name and address clearly printed on a plain piece of paper. If you are under 18, please ask a parent or guardian to sign your entry. An independently supervised draw will be made on your behalf, and should you be a winner, a prize will be sent to you within 28 days."* This author has tried writing to companies to ascertain how many people utilize this route but (to date) has been unsuccessful in gaining any further information. It is highly likely that few people write to the companies concerned. There is also a high likelihood that the companies have the empirical evidence but, unfortunately, it is not available in the public domain. If it is assumed that the number of

people who actually write to the companies for their names to be put into an independently supervised draw is low, it can be argued that, for all intents and purposes, people who buy instant-win products are engaged in a form of gambling.

Instant-win promotions as gambling precursors

Since the introduction of the U.K. National Lottery and instant scratchcards in the mid-1990s, a something-for-nothing culture appears to have developed. Children are growing up in an environment where gambling is endemic — a situation which certainly didn't exist before the introduction of the National Lottery. In the U.K. national press, Nick Rhines of the Institute of Sales Promotions asserted that "as a result of the National Lottery, the nation has gone gambling mad. People aren't interested any more in collecting things to win prizes — the market has been driven by instant-wins." (*The Sunday Mirror*, October 19, 1998, p.23).

Having examined a variety of instant-win promotions, this author is in little doubt that they should be viewed as gambling precursors in that they are gambling-like experiences without being a form of gambling with which people can identify. It is not likely that great numbers of children will develop a problem with this activity, but the potential concern is that a small minority will. Research has consistently shown that the earlier a child starts to gamble the more likely he or she is to develop a gambling problem (Huxley & Carroll, 1992; Fisher, 1993; Winters, Stinchfield & Fulkerson, 1993; Griffiths, 1995; Gupta & Derevensky, 1998)

Evidence that instant-win products are problematic to young children is mostly anecdotal. For instance, this author recently appeared on a U.K. television programme (*Espresso*) with a mother and her two children (aged nine and 10) who literally spent all their disposable income on instant-win promotions. These two children had spent hundreds of pounds of their pocket money in the hope of winning the elusive prizes offered but never won more than another bag of potato chips. The mother claimed they had "the gambling bug," and was "terrified they will have problems when they grow up." She claimed she had done her utmost to stop them using their pocket money in this way but as soon as her back was turned they were off to the local corner shop to buy instant-win products. This wasn't just restricted to products they themselves enjoyed; for instance, when they went to the supermarket to shop, the children just filled up the shopping trolley with anything having an instant-win promotion, including tins of cat food — even though they didn't have a cat!

Policy recommendations for instant-win products

Harsh critics of instant-win promotions might advocate a complete banning of these types of marketing endeavours. However, this is impractical if not somewhat over the top. What is more, there is no empirical evidence (to date) that there is a problem. However, this does not mean that such practices should not be monitored. Instant-win marketing appears to be on the increase and it may be that young children are particularly vulnerable to this type of promotion, if anecdotal case study accounts are anything to go by. Furthermore, such gambling-type experiences further reinforce and socially condition young people that we live in a "something-for-nothing" type culture. In addition, there are other types of practice now occurring that appear of equal potential concern. For instance, free scratchcard giveaways with newspapers and magazines. These require that readers (often in their early teens) scratch off the panels of the free scratchcards and then ring a premium rate telephone number to see if they have won a prize. There is a likelihood that some of these children will develop a craving for "the real thing" when they get older. Children easily get caught up in crazes and free scratchcard promotions are a good example of this.

In order to start addressing this potential problem, this author proposes some recommendations:

1. Companies should not directly or indirectly target young people with instant-win promotions, particularly on products like potato chips and chocolate, which are universally popular amongst children and which appear to be within a child's own small disposable income.
2. Scratchcards should not be given away with newspapers and/or magazines with a predominantly adolescent readership.
3. The case could be made for manufacturers to give as much information as possible about the product itself on the product label so that people can make informed choices about whether they buy the product in the first place or make a purchase for the chance of winning something. Although instant-win promotions state (in the small print) the number of possible prizes to win, there is no mention of the odds of winning. Admittedly, many people may not take much notice of this and young people may not understand odds and probabilities of winning anyway. However, the U.K. operators of the National Lottery are required to produce the prize structure, so why shouldn't instant-win promoters be required to do the same? At the least, people would know the chances of winning a particular prize.

Prize draws

In addition to instant-win promotions, prize draws also appear to be an important part of the marketing culture in the U.K., with companies appearing to be tapping into this newfound appetite for gambling and instant wins. Most prize draws appear to be a variation on a theme: retail outlets provide a leaflet in which the person simply has to fill out their name and address and/or answer a simple quiz-type question and send it back to the company with the chance to win products or prizes. These can either be picked up in the retail store itself or may come directly via the mail. Although there is a perception that most of the adult British public has become wary of junk mail and in-store promotions, there is clearly an appetite for prize draws. Again, like instant-win products, prize draws are not problematic in themselves but they again play on people's something-for-nothing mentality, which contributes to the developing "instant-win" culture. The chances of winning on prize draws, while slim, are still much better than the odds of winning the U.K. National Lottery. What's more, it has been estimated that at any one time a total of £5 million in instant-win prizes is available to be won. If few people enter such draws then the probabilities of winning can be quite good.

A vast majority of people view prize draws as innocuous but they have not gone unnoticed by the U.K. regulatory bodies, having been independently investigated by both the Office of Fair Trading (OFT) and the U.K. telephone watchdog, for attempting to dupe a seemingly gullible public. Little seems to be known about the prize draw market, a view that was echoed in a paper by the OFT in September 1996 (*Gambling, Competitions and Prize Draws*) which listed the approximate percentage of money received by promoters and paid out in prizes. All parts of the gaming industry were listed except for the draws that had "insufficient data." Clearly, prize draws (unlike instant-win products) are not forms of gambling, although they clearly have similarities with gambling as outlined above.

Policy recommendations for prize draws

At present in the U.K., the field (like that of instant wins) is relatively unregulated and obviously plays on people's desires to get something for nothing. The system is open to abuse; therefore tougher measures are required. If the general public gets conned there is little that can be done about it. The OFT does not regulate prize draws as such nor does any public authority. We need something like the U.K. National Lottery Commission to regulate this field. Further recommendations in this area could include:

1. a stronger obligation to publish details of the winners (not personal details but general details)
2. a clear statement from the outset that some prizes may not be awarded

3. the legal stipulation that entry into a prize draw should not be described as a prize
4. one-off call fees for premium-rate telephone competitions rather than paying by the minute
5. the legal stipulation that competitions should not be aimed at children and adolescents
6. the legal stipulation that customers should not pay above the going rate for a product because of the draw
7. the legal stipulation that customers should not have to pay for the pleasure from the gamble (i.e. buying the pleasure along with the product).

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For correspondence:

*Mark Griffiths, PhD
Department of Social Sciences
Nottingham Trent University
Nottingham, United Kingdom
Telephone: 0115 9418418 ext. 5502
Fax: 0115 9486826
E-mail: mark.griffiths@ntu.ac.uk*

Mark Griffiths, PhD, is a professor of gambling studies at Nottingham Trent University, and is internationally known for his research on gambling and gaming addictions. In 1994, he was the first recipient of the John Rosecrance Research Prize for "outstanding scholarly contributions to the field of gambling research." He has published over 110 refereed research papers, two books, numerous book chapters and over 250 other articles. His current interests are technological addictions, especially computer games and the Internet.

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Lottery fraud: Nothing new under the sun



By Peter Shears
 University of Plymouth
 Plymouth, England
 E-mail: Peter.Shears@pbs.plym.ac.uk

Dianne Thompson, the chief executive of the Camelot Group, recently reminded us that we have one chance in 14 million of winning the Lottery jackpot, and that even with the shiny new product they have launched we would be "lucky to win a tenner." As a frank statement it ranks among many. It was difficult to dampen the echoes of the Royal Bank of Scotland deputy chairman George Mathewson commenting a year ago that his £750,000 bonus was not enough to buy "bragging power in a Soho wine bar"; the marketing chief of Topman calling his customers "hooligans" and pointing out that they only wear a suit for their first interview or their first court appearance; and, of course, (surely the most famous gaffe in corporate history) when Gerald Ratner joked in 1991 that one of his (then) firm's products was "total crap," and boasted that some of its earrings were "cheaper than a prawn sandwich." This "foot in mouth" disease is fun for the rest of us, but it rarely disguises the truth. Thompson went on to say that the original slogan, "It could be you," had given false hope to players.

"Eight years later, people have realised that, though it could be you, it probably won't be."

Lotteries have something of a history. In the Bible (Numbers 26:56), Moses used a lottery to award land west of the River Jordan: "according to the lot shall the possession thereof be divided between many and few." It must be conceded, however, that "lots" were cast for divine guidance, not to gamble. We do not play lotteries to seek guidance, nor to make a donation to charities. We play for money. The outcome is nothing less than a matter of chance.

In 100 BC the Hun Dynasty in China created keno. Funds raised by lotteries were used for defence, primarily to finance construction of the Great Wall of China. In 1446 the widow of the Flemish painter Jan Van Eyck held a raffle to dispose of his remaining paintings. In 1567 Queen Elizabeth I established the first English state lottery. The prizes included cash, plate and tapestry, with 400,000 tickets offered for sale. In 1612 James I, by royal decree, created a lottery in London. The proceeds were used to aid the first British colony in America in Jamestown, Virginia. (Anglican churches held two of three winning tickets for the first draw.) Westminster Bridge was built from the proceeds of lotteries in the 1730s and £300,000 was raised to build the British Museum in 1753. Unlike modern lotteries, the draw was in two parts: a number was drawn from one container, then a ticket allocating the prize from another.

Lotteries were enormously popular in the 17th and 18th centuries. From 1769 to 1826, 126 state lotteries were held. They were promoted by torchlight processions in the street. Bulk purchases of tickets were made and resold at considerable profits (and governmental revenue losses). Side bets on the chances of particular tickets (called "insurance" bets) were common. Naturally, counterfeit tickets abounded.

A lottery is a taxation,
 Upon all the fools in Creation;
 And Heav'n be prais'd,
 It is easily rais'd,
 Credulity's always in fashion;
 For, folly's a fund,
 Will never lose ground,
 While fools are so rife in the Nation.¹

However, by the beginning of the 19th century, public interest in lotteries had diminished somewhat. They were considered by some to be "common and publick nuisances."² In 1807 William Wilberforce and Henry Thornton began

to advocate abolition. Pollock³ notes that after the abolition of the slave trade on February 24, 1807, Wilberforce turned to his friend and asked, "Well, Henry, what shall we abolish next?" The reply was: "The Lottery, I think!"

In 1808 a Committee of the House of Commons enquired on reforming the law. They reported:

"In truth, the foundation of the lottery is so radically vicious, that your Committee feel convinced that, under no system of regulation which can be devised, will it be possible for Parliament to adopt it as an efficient source of revenues, and at the same time divest it of all the evils and calamities it has hitherto proved so baneful a source. ... No mode of raising money appears to your Committee so burdensome, so pernicious, and so unproductive; no species of adventure is known, where the chances are so great against the adventurer, none where the infatuation is more powerful, lasting, and destructive."⁴

On July 9, 1823, Parliament set⁵ the abolition for 1826, and the last draw was made on October 18 of that year.

Lottery scams

And then 168 years later, in November 1994, a state lottery once again became part of our lives. We know the odds against winning in the Camelot lottery — and we didn't need to be reminded by Dianne Thompson.

It is tough enough to win a thing — but there are ways of being absolutely certain to lose. On July 9, 2001, the Royal Canadian Mounted Police asked the Federal Deposit Insurance Corporation in the United States to circulate to their institutions an alert about a Canadian lottery telemarketing fraud. (A similar alert had been published on November 16, 2000.) The fraud involved worthless, counterfeit certified cheques of up to \$12,899 sent to people across the United States as partial payment of winnings in the Canadian lottery. The recipient was advised to deposit the cheque and return a portion — by cheque or wire transfer — to cover a "non-resident tax" for the customs department. If they did, of course, that money would be "kissed goodbye."

Two days later, in Omaha, Nebraska, it was reported that consumers were being called and told that they had won in a Canadian \$1,000,000 lottery and all they needed to do is pay the \$10,000 "taxes" to claim the winnings. U.S. Federal law prohibits mailing payments to purchase any ticket, share or chance in a foreign lottery.⁶ Here, individuals were asked to send a cheque in a plain envelope by courier, but not tell the courier what was being sent.

On December 5, 2002, two people in the state of Maine reported losing large sums of money to scam artists operating from Canada. One was convinced to send \$1,500 to Westmont, Quebec, as the "taxes" on a large lottery prize he had won. Another sent in \$1,000 to a firm called "McKinley and Associates," supposedly located in Montreal. She had been convinced that she had won a \$100,000 lottery and that a courier was on the way to Maine to deliver the money. Why did she pay \$1,000? Because the courier could not carry such a large amount of money unless bonded. They told her the lottery cheque was due to expire in a day or two and she had to act quickly. The consumer wired the \$1,000 through Western Union. By now the Canadian authorities had set up a hotline.⁷

In San Diego last March, telephone calls were made by a man who introduced himself as a Canadian customs agent announcing good news. Two \$15,000 cheques had been won on the Canadian National Lottery. The customs agent said all that was required was to pay a small duty of 10 per cent. In one of the cases reported, the person became suspicious. The caller noticed this and said that, if \$3,000 was too much, he could lower the duty to \$1,000 to be paid through Western Union to Montreal. Five further calls were made to that victim that morning. A pattern of "friendly congratulation and persuasion" was emerging.

In April the police in Appleton, Wisconsin, warned of an "elaborate scam" involving telephone calls by someone claiming to be a U.S. customs agent and passing on congratulations for having won \$100,000 on the Canadian lottery. The money will arrive, it was said, in six to eight hours, if \$3,000 is sent for the excise tax. A number given to verify the caller was a customs agent who answered, "U.S. Customs"!

So it was that on May 9, reports began of calls to consumers in the U.K. from Canada. They had been given free entries into the Canadian National Lottery — all very fine. Then a couple of weeks later there was another call announcing that a huge prize has been won — usually around £200,000. The only snag is (yes) that tax has to be paid. It seems that some consumers are more than £40,000 down. Trading Standards Departments around the country are issuing warnings. The police and the OFT⁸ are already handling more than 500 complaints. Naturally, these are the people who have had the nerve to put their hands up. What size should we give to this iceberg? It is believed that the victims are all on Internet mailing lists from other competitions they have entered. These things are commodities in themselves; they are called "sucker lists."

If all this were not enough, there is no such thing as the Canadian National

Lottery! They have Lotto 6/49, Lotto Super 7, Tag in Atlantic Canada, Extra in Quebec and British Columbia, Encore in Ontario and Plus in Western Canada, but no National Lottery.

Nothing new

Just as lotteries have been around for centuries, so have the lottery conmen — the Sultans of Sting. Probably the finest example that the U.K. ever produced was Horatio Bottomley.

From this distance in time it is difficult to imagine his equal — Robert Maxwell? (Well, Bottomley was much shorter but he certainly had the circumference.) He, too, was an MP (famously advocating a National Lottery), a gifted journalist and orator and he owned newspapers and magazines which he used as soapboxes. Perhaps, a Jeffrey Archer? Well, Bottomley's antics were much, much worse, yet he, too, was something of an egoist and a popular hero. George Robb, in his book *White Collar Crime in Modern England* (1992) wrote: "Bottomley outlived many a scandal through sheer force of personality. He was a genuine working class hero, cultivating an air of impudence and addicted to horse racing, show girls and champagne."

Bottomley was born in 1860 in Bethnal Green. His father was a tailor's foreman and died when his son was only three. When he was nine, his mother also died and he was placed in Sir Josiah Mason's orphanage in Birmingham. He left at 14 and worked in solicitors' offices back in London. He learned his Layman's Lawyer's skills there. There is little doubt that he was the finest of that kind in his time. He made and lost several fortunes. Between 1891 and 1909 he had 67 petitions for bankruptcy served on him. He was involved with the promotion of a number of bogus companies during the Australian Gold Rush of 1892. In 1912 he was MP for South Hackney (for the first time) but went bankrupt (for the first time) and consequently had to resign his seat. It was at that time that his attention shifted to sweepstakes, lotteries and other scams.

The primary vehicle for these moneymaking schemes was his magazine *John Bull*, which he had established in 1906, the year he first entered Parliament. It was very much a precursor to the Sun newspaper. At its peak, its circulation was almost two million. The first scheme appeared in May 1912 when, now relieved of parliamentary duties, he launched a competition called Bull's Eyes — "hit the Bull's eye" was the challenge. It seems that one had to write a quip on a given subject, sending in a sixpenny postal order with each entry. Bottomley's biographer Julian Symons gives the example: "We hear that Gillow is not Waring well." Anyway, nobody won more than £50, a little

short of the promised prize of £500, and the competition was dropped. It was replaced with Bullets, another word game, in which a phrase was given and the answer had to contain letters from it. Again, £500 prizes were offered and 6d was the entry fee. Soon, simpler stuff appeared: £2,500 for predicting cricket scores, and the same for the results of 20 football matches. The honesty of these promotions was challenged. Libel action followed and one of those wonderful "one farthing" damages awards followed. Lotteries were, of course, still illegal in England but there was a fashion (also probably illegal) of sending money to sweepstakes operators in other countries, and so Bottomley started looking for offshore potential.

There was considerable interest in sweepstakes on horseraces which were run from Lucerne in Switzerland. In February 1915 the John Bull Derby Sweep was announced. The first prize was set at £5,000 but it was later raised to £15,000. The horse that was first past the post that year (Craganour) was disqualified and the race was awarded to Aboyeur. The sweep paid out on both. Hundreds of thousands of people had entered. The books of tickets sold at 10 for £1. Bottomley also ran what he called a "remnant" sale, where 250,000 "extra" books of tickets were sold at three for five shillings. These were marketed with envelopes of a different colour. That became important for it has been suggested by Symons that all the remnant money went no further than Bottomley himself. He ran the sweep from Geneva, where, every few hours, sacks of remnants were collected from the post office. There were wicker baskets full of postal orders, bank notes, silver and gold. In the sweep the total prize fund was £15,000 and it is estimated that the money received exceeded £270,000. Even allowing for expenses, it was quite an "earner."

Before the draw, Bottomley had been summoned before Bow Street Magistrates, charged with promoting a lottery. Bizarrely, the magistrate (Curtis Bennet) neither convicted nor dismissed but declared the matter (which he called "an offence under an antiquated law"⁹) closed, upon Bottomley paying 10 guineas and costs.

The next year, 1914, saw the Grand National Sweep. This time all the likely horses were assigned to friends and acquaintances but the race was won by Sunloch, a rank outsider. The net proceeds were much diminished. There followed a sweep on the F.A. Cup with a huge promotional mailing of 250,000 circulars. They were sent in hampers on trains across the network from Aberdeen to Plymouth and then put in post boxes by teams of local employees. This worked well until a sharp-eyed detective in Plymouth took the necessary steps towards prosecuting to conviction one of Bottomley's colleagues, Houston, with "conspiring with some person unknown to promote a lottery."

The biggest scam before the outbreak of the war was the 1914 John Bull Derby Sweepstake. The magazine carried a photograph of a cheque for £50,000, which had been deposited for the prizes. It was, however, withdrawn a week later, without the same publicity. There was so much mail being delivered in Geneva that the police set up across the street to observe. Those assisting Bottomley became so nervous that they agreed to his suggestion that the draw be conducted by him and some friends on a boat out on the lake. The evidence suggests that most of the proceeds eventually found a home in his bank accounts. There followed equally questionable activities, this time in Lucerne, based upon the 1914 Royal Hunt Cup, the Stewards' Cup at Ascot and also on the St. Leger.

Bottomley had been adding further strings to his crooked bow. In 1915, again using the pages of *John Bull*, he had invited readers to join the John Bull War Loan Club. They were to send in money (to Lucerne). He would buy War Loan Stock and the interest was to be distributed by means of a draw. Tragically, the postmaster general returned most of the letters and subscriptions as being part of a lottery. Come 1918, however, he set up the Premium Bond Scheme for buying War Savings Certificates, again where the interest would form draw prizes. He promised to supervise the draw himself. Symons writes that estimates have been made that the amount subscribed was between £100,000 and £250,000, but that the nature and extent of the payout remains unknown. All of this fades into insignificance in the light of the greatest sting of all — the Victory Bond Club.

The Victory Bond Club

The euphoria and national pride at the end of and immediately after the First World War provided Bottomley with the perfect medium within which to do his work. The government had issued a Victory Loan. It seemed something like a national duty to subscribe, but the bonds cost £5 — beyond popular reach. Bottomley was on hand to assist. The public were invited to send him just £1 for a one-fifth share in bonds he would buy. Again, the accrued interest would be prizes in a draw. A cartoon in the magazine declared, "If you can't afford that, Jack, have a quid or two in this."

Thousands of registered letters arrived every day at his King Street headquarters. These subscribers were supposed to receive personalised tickets, but that system was soon revised to generalised certificates that the holder had a ticket in the Victory Bond Club and was entitled to one entry in the annual draw. The office management was, put mildly, chaotic. Money and books of tickets were strewn about the place. There were piles of various and unsorted correspondence four and five feet high. Security was, put equally

mildly, lacking. Yet the police were outside, controlling the queues of ordinary, trusting people, bringing in £100,000 each day. Further, those involved in Bottomley's earlier "share" schemes and dissatisfied with their treatment were issued these certificates, too. Forgeries became common. Demands for the promised return of invested money became confused with new subscriptions. Many payments were made several times over, and on forged paperwork. There is little doubt that the staff took the usual advantage of any enterprise dealing mostly with cash. Bottomley bought bonds at a nominal £500,000 but at 85; however, he had to sell some to placate angry members at a time when the market price had fallen to 75 — a rare loss.

After six months, in January 1920 he announced to a meeting of subscribers at the Cannon Street Hotel that the assets of the club were to be invested into a new Thrift Prize Bond Club, to be based in Paris. Incidentally, at the meeting he stated these assets to be £500,000 in government bonds. However, he had already used £100,000 of them to buy himself controlling interests in two newspapers.¹⁰

There does seem to have been a prize draw. According to Symons, discs were strewn across the office floor to represent the entrants. The lights were turned out and Bottomley chose the winners by candlelight. There were 1,659 winners. The prizes varied from £10,000 to £10 but only winning numbers were published, no names.

Perhaps, inevitably, these activities finally led to his being convicted (the jury took 25 minutes) in May 1922 (at the age of 62) of "fraudulently converting to his own use sums of money entrusted to him by members of the public" ("callous frauds," said the judge) and sentenced to seven years penal servitude. He was released after five.

Bottomley's story gradually fades to black. He was re-elected to Parliament in 1918 but made little impression. He was involved in a new magazine, *John Blunt*, but it limped to failure. He even embarked on bizarre lecture tours at home and abroad. As he grew older, he seems to have increasingly confused fame, indeed notoriety, with power and ability. He gradually lost the pace of the race.

He died on May 26, 1933, at the age of 73, a frail and poor man. He was cremated at Golders Green Cemetery. One story is widely quoted. He was serving his time working on the mailbags in Wormwood Scrubs. A prison visitor asked: "Sewing, Horatio?" "No," he replied, "reaping."

1. A song from The Lottery, a farce by Henry Fielding which was first performed on the 1st of January 1732, at the Drury Lane Theatre, London, (cited: www.christian.org.uk/html-publications/nlottery.htm).
2. J. Ashton, A History of English Lotteries, Leadenhall Press, 1893, p.51.
3. J. Pollock, Wilberforce, Oxford: Lion, 1986, p.212.
4. 2nd Report from the Committee on Laws relating to Lotteries, 1808.
5. 1 & 2 Geo 4 c.120 (see: Allport v. Nutt, 1 C.B. 974: Gatty v. Field, 9 Q.B. 431).
6. 18 U.S.C. 1301, Importing or transporting lottery tickets; 18 U.S.C. 1302, Mailing lottery tickets or related matter.
7. Project Phone Busters in Ontario (1-705-494-3624).
8. At euroteam@oft.gsi.gov.uk.
9. Julian Symons, Horatio Bottomley, The Cresset Press,
10. The Sunday Evening Telegram and the National News — both doomed to failure.1955, p.144

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For correspondence:

*Peter Shears
Director of Professional Studies
Department of Accountancy & Law
Plymouth Business School
University of Plymouth
Drake Circus
Plymouth PL4 8AA
England*

Tel 01752 23 28 22 (desk)

Tel 01752 23 28 55 (message)

Fax 01752 23 28 62

E-mail: Peter.Shears@pbs.plym.ac.uk

Peter holds two degrees from the University of London, one from the law school at the University of Georgia and a postgraduate certificate in radio, film and television studies from the University of Bristol. He is director of

professional studies at the University of Plymouth, having been head of law for a decade.

A consultant, lecturer and broadcaster on consumer affairs in general, Peter has written a dozen law textbooks. He is an external examiner for several U.K. universities and a visiting scholar at European universities and in the United States. He represents the U.K.'s department of trade and industry in a number of capacities within the Council for Licensed Conveyancers and is one of 20 facilitators within the DTI's Consumer Support Networks initiative. He is active in several contexts within the National Consumer Federation.

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The face of Chinese migrants' gambling: A perspective from New Zealand



*By John Wong, M.Ed. (Couns) (Hons)
Asian Services, Problem Gambling
Foundation of New Zealand
Auckland, New Zealand
Email: john.wong@pgfnz.co.nz*



*Samson Tse, PhD
Center for Gambling Studies
University of Auckland, New Zealand*

Key words: problem gambling, Asians, immigration, migrants, counseling

Abstract

This article is written from the viewpoint and experiences of two counselors who are community development workers and researchers working in the field of Asian social services for people with gambling problems. It discusses the factors that shape Chinese migrants' gambling behaviors in New Zealand in relation to the difficulties that they may encounter during their migration process, such as insecurity in the new country and disconnection from their family and friends. Also, some individuals have little experience of legalized casino gambling prior to coming to New Zealand and they tend to use gambling as a form of escape from their problems. The article concludes by proposing directions for future research and development of services to help Chinese people affected by gambling problems.

Introduction

Asians make up the fastest-growing ethnic community in New Zealand today. Between 1991 and 2001, the number of people who self-identify as "Asian" grew by 140% to 238,180 people, or 6.7% of the New Zealand population (Statistics New Zealand, 2002a). Asians are now the third largest ethnic group in New Zealand, just after European and Maori. Chinese are the largest ethnic group within the Asian population (105,057), followed by Indian (62,190) and Korean (19,023) (Statistics New Zealand, 2002b). The percentage increase in the Asian population has been mainly due to large migration gains; 52% of the Chinese group, 42% of the Indian group and 87% of the Korean group were born overseas and have been residents in New Zealand for less than 10 years (New Zealand Immigration Services, 2001). Ninety-eight per cent of Asians live in metropolitan areas.

Anecdotal accounts and media reports have made frequent reference to the disproportionate level of participation in gambling by people of Asian appearance or from Asian countries (Horton, 1996; "When the stakes," 2000; Tan, 1998; Tse & Tan, 2002). Bell and Lyall (2002) recalled:

At Sky City Casino last night, Pakeha [i.e. "Europeans" in the Maori language] made up perhaps five percent of those present. Numerous young Maori and Pacific Islanders, smart in their gold metallic waistcoats, were croupiers and cashiers. A few older Polynesian women smoked and drank beer at the poker machines, perhaps running two or three machines at one time. Everyone else was Asian. (p. 233).

To date there are only very few studies on gambling problems among members of the Asian communities. In the 1991 New Zealand National Survey (Abbott & Volberg, 1991), Asians had similar prevalence rates (1.2%) of probable pathological gambling (past six months) to Europeans. However, in the 1999 National Survey, no Asians were identified who had current gambling problems (Abbott, 2001a). The researchers noted that these findings should be treated with extreme caution because of the small sample size of Asians and other methodological factors that could reduce the quality of the information obtained (Abbott, 2001b).

Blaszczynski, Huynh, Dumlao and Farrell (1998) distributed Chinese and/or English versions of questionnaires to parents (n=508) through children attending a local Chinese-speaking school in Sydney, Australia, and found that 2.9% of the sample could be classified as pathological gamblers during the previous 6 months (using a South Oaks Gambling Screen (SOGS) cut off of 10 items) and 7.8% of the sample could be classified as problem gamblers (cut off of 5 items). The Victorian Casino and Gaming Authority (Australia) commissioned a telephone survey using cultural groups' first language in interviewing their research participants via telephone. It was found that 10.7% of Chinese (n=159) and 10.5% of Vietnamese (n=173) scored 5 or more on the SOGS, compared to 1.5% of the general community (Cultural Partners Australia Consortium, 2000). Moreover, for those who participated in gambling activities, Chinese (mean = A\$55.74; median = A\$20) and Vietnamese (mean = A\$23.26; median dollar = A\$6) tended to spend considerably more money than the general community per week (mean = A\$10.83; median dollar = A\$1). However, it is unclear what proportion of the respondents in these studies were recent immigrants to the countries where the studies took place. Also Abbott (2001b) added "while some Asian sub-groups may have low rates of problem gambling it is expected that, overall, this rapidly growing sector of the population will have rates at least as high as those of the general population if not higher. Further research is required to clarify the nature and extent of problem gambling among Asians and recent migrants to New Zealand" (p. 31).

A study by the Chinese Family Life Services of Metro Toronto (1995) in Canada found that Chinese there gamble for many reasons, including making money, escape from problems, excitement, entertainment, social activity, fantasy, charity, and low self-esteem. Despite the likelihood of higher levels of gambling problems, research has indicated that Asian people may be less likely to seek help for their problems. In New Zealand in 2001, Asian clients using the telephone helpline and personal counseling were greatly underrepresented, at 2.6% and 3.0% respectively of the total client population seeking specialized services for gambling problems (Paton-Simpson, Gruys & Hannifin, 2002). Asian clients attending counseling

services indicated that casino table games were their primary gambling mode whilst a small proportion mentioned non-casino gaming machines and track betting. Immediately prior to seeking professional help, Asian clients tended to have lost large sums of money (Abbott, 2001b).

Against this background it becomes necessary to investigate the incentives and restraints that operate for Chinese gamblers, especially those new to New Zealand. Based on treatment and research experiences, the aims of this opinion article are to (1) explore the reasons why Chinese migrants gamble; and (2) formulate key research questions for future studies.

Why do Chinese migrants gamble?

Between 2000 and July 2002 the number of clients (migrants to New Zealand) using the face-to-face Asian counseling services increased steadily from 17% to 37%. A similar trend was also noticed for the Asian telephone hotline services, with the number of clients increasing from 11% to 17% between 2001 and July 2002. The clients' countries of origin include China, Hong Kong, Taiwan, Malaysia and Singapore. In what follows, we will examine carefully the non-specific factors that predispose a recent migrant to vulnerability to developing gambling problems.

Gambling as a part of cultural and social traditions

Gambling has been part of the social fabric of the Chinese society for thousands of years. First recorded around 700 BCE (*A Brief History*, 1991), some forms of gambling have become so intertwined with social life that they are considered acceptable, even as healthy hobbies. For example, Mah-jong has been around since 10 ACE (*A Brief History*, 1991). Some Chinese feel that playing Mah-jong can keep the mind active, especially when they are old, as a way of preventing deterioration in mental functioning. It is widely considered to be a normal way to socialize with friends and relatives. Horseracing is considered a harmless hobby as long as the money involved is "reasonable" and the player's peers are socially acceptable. There is a Chinese proverb saying: "A little gambling is soothing and relaxing; heavy gambling could affect your mental health." Furthermore, a government's attitude to gambling can influence people's participation. For example, beginning in November 1995, prisoners in Hong Kong have been allowed to read horseracing news. Lotteries are popular in Hong Kong and Vietnam because of the small amount of money involved and most people see it as harmless (Chinese Family Life Services of Metro Toronto, 1995).

At social gatherings such as wedding banquets and during such festival celebrations as Chinese New Year, Chinese people play games of chance

such as Mah-jong, card games, and attend cockfights and cricket fights with their family and friends. Children and teenagers are introduced to these games or gambling activities without being told the potential harm caused by gambling. The boundary between recreational and problematic gambling may be indistinct, and people may have difficulty recognizing when and how gambling might become a problem to individuals and family. However, we must acknowledge that all of these potentially harmful activities have provided recent Chinese migrants a great deal of opportunity for social gathering, meeting new friends and enjoyment. What remains a challenge to recent migrants is how to reduce the harm to themselves and their family caused by gambling and how individuals can be responsible for their own gambling behaviors.

Being in a new country

Among the clients who seek specialized counseling services for gambling problems, most of them (e.g. from China, Hong Kong, Taiwan and Korea) reported they did not have easy access to gambling activities prior to coming to New Zealand. Over the last three years of operation of the specialized Asian gambling counseling services in New Zealand, it is estimated that up to 95% of the total client population indicated they did not have gambling problems in their home countries before immigration. Some of them might have played Mah-jong or cards with members of their extended family but they seldom played with strangers, and had never been to a casino with free entertainment — for example, a grand Chinese restaurant and karaoke bar. Without forewarning, let alone education, Chinese migrants are exposed to a whole array of legalized gambling activities, including electronic gaming machines in pubs and sport clubs, lotto tickets and sports betting. These can be exciting and thrilling for recent migrants from Asian countries, who tend to find life in New Zealand a bit boring and monotonous, for their usual entertainments are not available here.

Little experience of gambling, coupled with the fact that some Chinese migrants might have a significant amount of cash and time on-hand, make them particularly vulnerable to developing gambling-related problems. Indeed, they are susceptible to experiencing a large loss of money to the extent that it could threaten their ability to start a business, seek employment, pay tuition fees or simply establish a new life in the new land they now call home.

Within a new country, the migrants that can speak English still find that they have difficulties in communicating with local people, as both groups have different accents and topics of interest for conversations. Those who cannot speak English have tremendous difficulties in making new friends and

conversing with new neighbors. Consequent to this are experiences of social isolation, withdrawal and disconnectedness from a place that is already foreign to them. The irony is that gambling seems to take away the language barrier and social isolation problems. For instance, in a casino one does not need to speak or have command of a spoken language. Gambling activities can be satisfactorily conducted purely by using hand gestures. One does not have to speak a single word to enjoy the presence of other patrons in a gambling venue, by feeding money continuously into the machine or just making sure money is put in the right place. In addition, recent migrants are more likely to meet Chinese or old friends in a casino than anywhere else in the community.

Complications arising from the migration process

Adjustment to living in a new country is not an easy process and may not work out for everyone. Chinese migrants may come across multiple difficulties. Culture shock and persistent anxiety can result from the loss of familiar signs and symbols of social intercourse. These signs, or cues, include many different ways in which we orient ourselves to situations in daily life such as when to shake hands and what to say when we meet people, when to take statements seriously and when not. The usual extended family network no longer exists and new support systems have not been established. Whenever new migrants are confronted with difficult situations, whether related to employment, relationships or finances, they have difficulty finding people to provide support. Extended family structures and community-centered ideologies are one of the major characteristics of Chinese culture (Arthur, 2000). Fundamental to Confucian thinking is how the maintenance of one's well-being begins with the individual and proceeds through the regulation of family (Tseng, 1973). Emphasis is placed upon harmonious relationships between parents and the children, and caretaking by elders for younger family. The family is expected to and would provide the needed practical and emotional support to their members during times of stress.

It is sad that people seeking counseling services for their gambling problems often say they use gambling as a form of escape from problems, at least temporarily. When this happens, a vicious cycle is activated. When migrants cannot cope with the enduring adjustment difficulties related to recent migration, some resort to gambling as a form of release from stress. But the more they lose at gambling, the higher their level of frustration and anxiety. They become trapped into chasing money they have already lost. The problems are exacerbated by the sheer fact that new Chinese migrants have limited social supports, little knowledge about the types of local services available (e.g. budget or legal advice, mental health, social and family services) and are not accustomed to seeking help from others, including from

social services and health professionals.

Obtaining employment is acknowledged as one of the major obstacles during the settlement phase in a new country. In New Zealand, 95% of recruitment consultants and human resource managers believe that some groups in New Zealand experience discrimination in employment (Ministerial Advisory Group, 2001). Research by the University of Auckland and Auckland City Council revealed that most Asian migrants believe that New Zealand employers undervalue their qualifications and skills. They feel that businesses put unduly high emphasis on local experience and language proficiency at the expense of their outstanding qualifications, substantial skill and experience (Equal Employment Opportunities Trust, 2001). Some of the recent migrants who are unable to obtain employment come to consider gambling as a legitimate alternative to earn a living. Additionally, feelings of impotence, loss of status, unworthiness and low self-esteem are associated with unemployment or underemployment. Some new migrants might feel that they can regain status through successful gambling. Some individuals may even find a sense of pride when they lose a vast amount of money; they are seen by their peers or friends from their home countries as big spenders and splendid gamblers — of course, assuming they can afford to lose the money.

Conclusion and directions for future research

Uprooting from one's country of origin and moving to another country is not always a straightforward process. Some people cope well and settle happily in their new country, but some experience various degrees of difficulty. Gambling is sometimes used by migrants as a form of coping for the problems encountered. Gambling is interwoven in Chinese culture and social traditions. Moreover, little prior experience in participating in legalized, freely available gambling and adjustment difficulties render Chinese migrants more vulnerable to developing gambling problems.

However, four key questions remain unanswered. Firstly, on one hand, some new migrants utilize gambling as a short-term escape from their problems; on the other hand, the majority of recent migrants do not use this avoidance-coping strategy. In other words, there is an urgent need to identify the key variables that determine how people cope with adjustment difficulties arising from the migration process. Why do some people turn to gambling as a solution while some do not and never would? What are the more specific factors that shape and reinforce one's gambling behaviors, in addition to the non-specific factors proposed in this paper (Zane & Huh-Kim, 1998)?

Secondly, it is of paramount importance to investigate the factors that either trigger or hinder help-seeking behaviors amongst those members of the

Chinese community who develop gambling problems. Our service sees many people seeking professional counseling when they find themselves in desperate situations after incurring large debts or after being directed by the courts or the police. Also, we have little understanding of how this usually short-term, episodic, externally driven help-seeking behavior could be turned to internalized, self-owned determination to deal with the gambling problems. Our observation is consistent with data from the United States where Asians tend not to use mental health or related social services, or, when they do utilize these services, they exhibit more severe mental stress than their American counterparts (Sue, Fujino, Hu, Takeuchi & Zane, 1991).

Thirdly, we assert that gambling problems amongst Chinese in New Zealand have to be viewed in the context of adjustment difficulties associated with migration. Therefore, it would be useful to study if more comprehensive social, family and employment services, including an intensive case management approach (as opposed to traditional counseling interventions in an interview room) would be more effective.

It is important to realize that among the Chinese migrants, whether in New Zealand or around the world, there is great diversity in the level of participation in gambling activities and the extent of gambling problems. Features surrounding the immigration process, reasons for immigration, age at immigration, number of years in the new country and proficiency in English might determine how individuals cope with their new life and if they develop gambling problems. Therefore, the fourth research and development issue is to identify which are the high-risk groups of people within the community of Chinese migrants. Once these are identified we need to investigate what is the most effective way to deliver mass media campaigns to promote early detection of gambling problems and provide therapeutic interventions to those affected by gambling problems.

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For correspondence:

*John Wong, M.Ed. (Couns) (Hons)
Counselor and Community Development Manager
Asian Services, Problem Gambling Foundation of New Zealand
P.O. Box 26-533, Epsom, Auckland 1003
New Zealand
Phone: 0064-9- 5224823
Fax: 0064-9- 5224826
Email: john.wong@pgfnz.co.nz*

John Wong is manager of Asian Services, Problem Gambling Foundation of New Zealand. He holds memberships in the New Zealand Association of Counsellors and Aotearoa New Zealand Association of Social Workers. His interests include issues relevant to migration. John is also the chairperson of the Auckland Regional Migrant Services Charitable Trust and the Chinese New Settlers Services Trust.

Dr. Samson Tse, is director (advisory) for Asian Services, Problem Gambling Foundation of New Zealand. He also holds teaching and research positions in mental health development and Asian health and gambling at the School of Population Health, University of Auckland.

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Oregon's Problem Gambling Services: Public health orientation in a stepped-care approach

Contact person:

Jeffrey J. Marotta, PhD
Manager
Problem Gambling Services
Oregon Department of Human Services
Mental Health & Addiction Services
500 Summer Street NE E86
Salem, Oregon, U.S.A. 97301-1118
Phone: (503) 945-5763
Fax: (503) 378-8467
E-mail: jeffrey.j.marotta@state.or.us
Web site: <http://www.dhs.state.or.us/addiction/>

Program description:

Oregon's Problem Gambling Services are broken down into three broad service areas: prevention, outreach and treatment. Within and between these service areas program design will follow the framework recommended by the Continuum of Care of the Institute of Medicine.

Prevention. Problem gambling prevention programs are directed at avoiding or reducing the emotional, physical, social, legal, financial and spiritual consequences of disordered gambling for the gambler, the gambler's family and the community. Oregon's prevention efforts are delivered by three separate, yet related, administrative bodies.

1. Department of Human Services' Problem Gambling Services orchestrates actions to prevent gambling-related problems, promote informed and balance attitudes, and protect vulnerable groups. These actions include promoting healthy public policy and developing collaborative relationships between various stakeholder groups.
2. County governments are provided \$400,000 dollars annually to empower communities and strengthen community action. Local governments develop and implement regionally specific prevention plans that include measurable goals and objectives. The prevention plans follow a public health model as a foundation.
3. The Oregon Lottery allocates \$700,000 annually for public awareness and education programs designed to provide clear and consistent messages regarding healthy and unhealthy gambling behavior. The "Play Responsibly" campaigns along with a problem gambling awareness campaigns uses TV, radio and print media.

Outreach. County governments' "gambling prevention funds" may be used either for prevention or for outreach activities. Outreach activities include case finding among high-risk populations. Common outreach actions include screening for gambling problems within mental health programs, alcohol and drug abuse programs, corrections departments and at-risk youth programs. Additionally, the Oregon State Lottery's "Play Responsibly" campaign generates thousands of calls to the Problem Gambling Help-Line, which produces approximately 2,500 referrals to problem gambling treatment programs per year. (Oregon has a population of 3.42 million).

Treatment delivery: A stepped-care approach. A frequent access point to treatment is a call made to the state's Problem Gambling Help-Line (877-2-STOP-NOW). The Help-Line is staffed 24 hours a day by professional counselors with problem gambling expertise. Callers are informed that problem gambling treatment services in Oregon are free of charge and confidential. When appropriate, counselors conduct brief assessments and motivational interviews with callers. The counselor then makes referrals based on screening information, clinical judgment and available resources. To facilitate a successful referral, Help-Line counselors use three-way calling to place the caller in contact with the referral agency and offer follow-up calls to provide further support.

The treatment system follows a stepped-care approach. That is, treatment

intensity increases with negative outcomes both within programs and between programs. Oregon's treatment delivery system is composed of intervention programs broadly classified as Level .05 interventions, Level I treatments and Level II treatments.

Level .05 interventions are considered the least restrictive approaches and consist of either local Gamblers Anonymous groups or the Gambling Evaluation And Reduction (GEAR) Program. Participants utilizing the GEAR program are mailed a manual for self-change and provided the opportunity to review workbook assignments with a counselor during scheduled telephone sessions. All GEAR participants receive 24-month evaluation and referral services.

Level I treatment is broadly defined as outpatient, professionally delivered, face-to-face intervention. Level I treatment involves a biopsychosocial assessment, individual treatment planning, one-to-one counseling and/or case management sessions, group counseling, family involvement, if appropriate, and aftercare planning. Oregon operates 27 Level I treatment programs throughout the state. Included in the Level I services are culturally specific programs targeting African American and Hispanic populations.

Level II programs are composed of a network of regional centers that offer crisis-respite services after referral from an outpatient gambling treatment program. Oregon operates three crisis-respite programs that offer short-term residential services. One center is medically based, one is operated out of a residential alcohol and drug treatment facility and one is a joint venture between a shelter care and an outpatient treatment program.

During the 2003-2005 biennium, Oregon plans to invest \$3.65 million a year to minimize the negative effects of gambling for Oregonians. An Oregon statute requires 1% of the State Lottery's net proceeds be placed into a Gambling Treatment Fund.

Philosophy of service:

Oregon's newly redesigned Problem Gambling Services are guided by a public health paradigm and approach that take into consideration biological, behavioral, economic, cultural and policy determinants influencing gambling and health. It incorporates prevention, harm reduction and multiple levels of treatment by placing emphasis on quality of life issues for gamblers, their families and communities. By appreciating the multiple dimensions of gambling, Oregon's Problem Gambling Services have been developed to incorporate strategies that minimize gambling's negative impacts while recognizing the reality of gambling's availability, cultural acceptance and

economic appeal.

Description of our treatment clients:

In 2002, the average age of gamblers enrolling in treatment was 43 years and males were significantly more likely to be younger than females. Males comprised approximately 53% of the gambler clients and only 31% of the family clients. Slightly over 90% of the clients were white and approximately 41% reported being married. The average annual household income was \$36,246. Over 71% of the clients reported they were employed full time.

Gambling patterns and consequences. The primary gambling activity of both males and females who requested treatment was video poker (74%) followed by slot machines (10%), cards (5%), betting on animals (2%), Keno (2%) and bingo (1%). Approximately 70% indicated their primary gambling was at a lottery retailer and 22% at a casino or Native American gambling center. The average distance traveled to gamble was 13 miles. The average gambling-related debt was \$22,840 with several clients reporting debts well over \$100,000. Approximately 24% of the gambler clients reported being divorced or separated or having otherwise lost a significant relationship as a result of gambling. Fifteen percent reported losing a job as a result of gambling, 40% committed illegal acts related to their gambling and about 10% attempted or had plans to commit suicide within the six months previous to enrolling in a treatment program.

Program evaluations and research involvement:

The prevalence of combined current problem and probable pathological gambling in Oregon decreased from 3.3% in 1997 to 2.3% in 2000. The decline in prevalence rates has been attributed to Oregon's system of problem gambling services. A list of research publications on gambling in Oregon is available at: <http://www.gamblingaddiction.org/> A detailed evaluation of our services is at: <http://www.gamblingaddiction.org/STATE2002/ORGAMEVAL02.pdf>

Treatment outcomes:

On average, problem gambling treatment consisted of 13 individual and/or group counseling sessions that took place over a four-month period. The average cost for treating an individual with a gambling problem was \$715. For clients who completed their full course of recommended treatment, on average, treatment consisted of 25 sessions occurring over an eight-and-a-half-month period and cost \$1439.

Based on follow-up evaluation, 75% of problem gamblers who enroll in Oregon's publicly funded gambling treatment programs report either no gambling or reduced gambling following case-closure. This high success rate is in spite of the large proportion (70%) of problem gamblers who do not complete their full course of recommended treatment. Follow-up data indicated that 37% of these clients reported *no gambling* at 90 days and an additional 29% reported gambling *much less* than before treatment. Interestingly, those who left treatment before completing the entire program were significantly more likely to report more severe symptomology than those who remained longer in treatment.

Of the clients who completed their full-course of recommended treatment, at the time of discharge, 98% reported either abstinence (71%) or reduced (27%) gambling. At six-months post-discharge, 90% reported either abstinence (46%) or reduced gambling (44%) compared to before treatment. A similar rate of abstinence and reduced gambling was reported at 12 months post-discharge.

Nearly 96% of the clients were willing to recommend the programs to others. They found that the most helpful elements of the treatment were gaining a better understanding of themselves and their relation to gambling, learning alternative ways to solve problems and being able to share the experience with peers under the direction of skilled counselors.

This service profile was not peer reviewed.

Submitted: June 17, 2003

The Electronic Journal of Gambling Issues: eGambling *invites clinicians from around the world to tell our readers about their problem gambling treatment programs. To discuss a submission, please contact the editor: Phil_Lange@camh.net.*

issue 9 — october 2003



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[This article prints out to about 35 pages.]

How to gamble: Information and misinformation in books and other media on gambling

By Nigel Turner

Centre for Addiction and Mental Health

Toronto, Ontario, Canada

E-mail: Nigel_Turner@camh.net

Barry Fritz

Psychology Department

Quinnipiac University, Hamden, Connecticut, U.S.A

Bronwyn Mackenzie

Centre for Addiction and Mental Health

Toronto, Ontario, Canada

Abstract

Currently a large number of books, videocassettes and computer programs are available to teach people how to gamble. This article is an examination of this wealth of information. The paper begins by describing the number and types of materials on how to gamble available in an online catalogue and in libraries and bookstores (Study One). The paper then turns the discussion to an examination of the accurate and inaccurate information found in a sample of these materials (Study Two). The studies found that the majority of the material available was on skilled games, but a sizeable number of materials on non-skilled games were also found. The quality of these materials ranged from pure nonsense to accurate. The best materials

found were in books on gambling in general and in materials on how to play poker. This paper includes a catalogue of the accurate and inaccurate information found in the books as well as a series of reviews on a number of books, Web sites and other gambling-related material.

Key words: gambling, erroneous beliefs, public information

Introduction

Currently there are a large number of books, magazines, videocassettes and computer programs available to teach people how to gamble. In addition, many casinos and other gambling venues offer pamphlets that detail the rules of various games. The fact that there are a large number of books and other material available does not mean that gamblers use them. However, given the market economics of the book industry, it is reasonable to suggest that there is a large audience for these materials. Many of these books are written by gamblers, which means that these materials may also help us understand the rich subculture of gamblers. This article is an examination of this wealth of information with the goal of (1) examining the number and type of materials available, (2) determining the quality of the materials based on a small sample of them, and (3) providing therapists and other gambling addiction professionals with a guide for evaluating the gambling information contained in these materials.

Gamblers often hold erroneous beliefs about the nature of gambling and specifically about the nature of random events (Wagenaar, 1988; Griffiths, 1995; Ladouceur, Dube, Giroux, Legendre & Gaudet, 1995; Ladouceur & Dube, 1997). These beliefs are not necessarily invented by the gambler; they may also be learned from other gamblers in the form of shared myths, which circulate around the gambling subculture. Many of these misinformed beliefs appear in books on how to gamble, and consequently, are further validated by virtue of being in print.

Current information on how to gamble includes both accurate and inaccurate information. We believe that some problem gambling could be prevented through the dissemination of accurate information about gambling (e.g. Ferland, Ladouceur & Vitaro, 2002; Ladouceur, Vezina, Jacques & Ferland, 2000). Thus, the general public needs direction and informed advice on which materials most accurately depict fundamental underlying principles of games of chance, to promote informed decision-making. Furthermore, the how-to-gamble literature is quite extensive, suggesting there is a great demand for books and other materials on how to gamble. By evaluating this information, we can perhaps encourage the gambling book industry to produce higher quality books containing accurate information.

We will begin this paper by describing the number and types of current materials on how to gamble available in an online catalogue, and in libraries and bookstores (Study One). We will then turn the discussion to an examination of the accurate and inaccurate information about randomness, probability and emotional control, which appear in a small sample of these materials (Study Two).

Study One: Availability and frequency of materials

Sample

The frequency of gambling materials presented here is based on a catalogue of material advertised on the Gambler's Book Shop Web site (www.gamblersbook.com), advertised as the largest selection of gambling books, videotapes and software in the world. Our examination of this and other Web sites did not find any evidence to contradict their claim. We also counted the number of books found in libraries and bookstores in the greater Toronto area, but the main focus of the statistics given in this study is from the Gambler's Book Shop Web site.

The catalogue from the Gambler's Book Shop Web site was downloaded during the winter of 2000 and organized into a spreadsheet. It was later sorted by category to create the frequency of materials described in this study. Didactic materials were the focus of this study, and therefore, materials such as novels or casino guidebooks were excluded from the sample. Redundancy was also taken into account in this collection, and repeated items were removed. A total of 1,157 unique items were identified in the resulting collection of materials, which includes books, software, statistics, charts, magazines and videos on gambling. This sample does not represent an exhaustive search of the available literature. We are aware of several specific books that are not listed on this Web site, but to date, this Web site is the most comprehensive list we have come across.

These materials were then classified according to the type of game covered. The games were grouped into three categories: gambling in general, non-skilled (luck) games, and games of skill. Books on gambling in general were mostly books on how to play casino games. Any book that covered a variety of games was classified as a general book. Most game-specific books cover only a single game. There are some published books that cover two games (e.g. lotteries and sports pools). Most often, these materials were placed into the general category, unless we knew that the material predominantly covered just one of the games. A non-skilled game is one in which the only factor that determines the outcome is random chance. Some games of

chance do involve choices of how to bet, but these choices do not constitute a real skill. For example in the game of craps, a pass line bet (a bet that the dice shooter will win) always has a lower house edge than field bet (a bet on a specific number). But you do not gradually become better at making pass line bets. You simply make a relatively good bet or a relatively poor bet. Many of the choices made in non-skilled games have no impact on the long-term outcome of the game whatsoever. Non-skilled games include roulette, craps, slots, baccarat, lotteries and bingo.

A game of skill is defined as a game in which the player's decisions during the game have a direct impact on their chance of winning and long-term success. In poker, for example, a player with a pair of sevens might fold if someone else had already raised the bet; might call if only one bet had been made; but might raise the bet if he or she was the last player to act (place a bet, call or fold) and no one else had raised. The same hand would be played differently depending on how many players were still in the game, the player's position in on the table (e.g. first to make a bet, last to make a bet, etc.), the type of game and his or her experience with the other players. In skill games the best play depends on the situation. What makes these games *skill* games is the fact that knowing what choice to make in a given situation will alter the player's long-term expected return. Skill games include poker, blackjack, betting on horseraces and sports betting. In these games, a highly skilled player can theoretically earn enough to overcome the house edge (see Turner, 2001, for related comments). Some games such as video poker involve some skills, but the role of skill is usually too small to allow the player to overcome the house edge. Such games are included amongst the skilled games, in a category we called semi-skilled games.

Results

The total number of materials was 1,157 items. The bulk of the gambling materials found were books. We found a total of 955 unique books on how to gamble available on the Web site. In addition, several other types of material were also found, including computer software (81 items), magazines (55 items), statistics such as data on horseracing (33 items), audio materials (13 items), video materials (12 items) and charts (8 items).

The largest category of available materials was for skilled and semi-skilled games (e.g. 839 items on sports, horseracing and poker, of which 26 items were on semi-skilled games), and the remainder were evenly split between non-skilled games (e.g. bingo, slots; 159 items), and materials on gambling in general (not game-specific; 159 items). We also looked at the breakdown of gambling books in libraries and bookstores in the greater Toronto area.

Skill games

By far, the largest collection of materials found was on games in which winning is affected by the player's skill. A total of 839 items or 70% of all the available materials comprised this category. In order of frequency, these games of skill include sports betting (233 items), horseracing (220 items), poker (186 items), blackjack (123 items), greyhound racing (51 items), and semi-skilled card games (26 items). The last category, semi-skilled card games, was a mixed collection of games including video poker, Paigow and Let It Ride Poker, each of which was represented by 7 items, and Caribbean Stud Poker, which had 5 items. Each of these games is a variation on poker, played against the casino. These games are semi-skilled because, by using careful play, the player can reduce the house edge, but only to a limited degree. Unlike blackjack, in these games it is not possible to beat the house edge in the long run.

As indicated above, the largest category of skill games materials were on sports betting (233 items). The largest number of items was in the football category. The material included 49 items on making sports bets, 87 on football, 55 on baseball, 37 on basketball, and 5 on hockey.

Non-skilled or luck games

Of the 159 items on non-skilled games, 69 materials on how to play craps and other dice games constituted the largest category. Materials on other non-skilled games included roulette (21 items), baccarat (19 items), lottery (17 items), slots (17 items) and keno (16 items).

Discussion

An examination of the material available on gambling reveals, first, that a large number of books and other materials are available on gambling. Obviously, a large market exists for these materials. Second, the largest number of materials was in the category of books on games of skill. This is not surprising since knowing how to play these games can give a person an edge (to lose less often) compared to other, less skilled players (Turner & Fritz, 2001).

A surprisingly large number of materials are available on playing non-skilled games. This is surprising since a person cannot achieve an edge over the casino in games in which the outcome is completely determined by chance. In some cases, such as craps, learning about the rules of the games might help a person play the game and even decrease their losses (e.g. making pass line rather than field bets), but it is hard to imagine a list of rules filling

out an entire book.

The large number of materials on craps and other dice games is perhaps due to the complexity of these games and the fact that the house edge on some of the bets is much lower than on others (e.g. free odds on pass line bets). The complexity and variable house edge in dice games promote a strong illusion of skill, which creates the market for these books. General books on gambling will often discuss at length how to make free odds bets in craps. The description will often seem to imply that such bets allow the player to beat the house. It is speculated that much of the material on non-skilled games is similarly filled with misinformation about how to beat the house.

As a validity check we also counted the number of general, skill-oriented and chance-oriented materials on gambling in libraries and bookstores in the greater Toronto area. In both libraries and bookstores, skill-oriented books still dominated gambling-related materials, but only made up 41% and 45%, respectively, compared to 87% on the Web site. We suspect that the smaller number of skill-oriented books in libraries and bookstores is related to the less specialized nature of the audience that seeks out material in these venues. Interestingly we found few books on how to bet on sports in either the libraries or the bookstores in the greater Toronto area.

The Web site, library and bookstore samples together give us a picture of the types of gambling books available. Books on games of skill make up the bulk of material available, but information is also available on how to play various non-skilled games. To the serious gambler, the Web site offers mostly books on sports, racing and other skill-oriented games as well as a wealth of statistical information to help punters select their bets. By contrast, the library and bookstore collections have a much larger proportion of books on gambling in general. The general books were most often about casino games.

Study Two: A review of specific books

As described above, gambling books come in a variety of forms. Many gamblers read materials on gambling, and a lot of information on gambling is available. Some of the materials are general books, which discuss several games; others focus on a single game. We selected a number of these books and read, viewed or used them. Most of the material was in the form of a book, but one video, one software program, one magazine and four Web sites were also reviewed. The quality of these materials was examined in terms of the accuracy of their information. We first list the types of information and then examine each book to highlight its strengths and weaknesses.

Sample and source

A purposive sample of the 18 books and other materials and four Web sites was drawn. The authors collected books that would cover the full range of quality of the materials, from poor to excellent. Thus, the sample is a representation of the range of material available rather than a randomly drawn representation of the average book available. The books were obtained from several sources, including large chain bookstores, small private bookstores, a discount book clearance centre, used bookstores, libraries and Web sites. The broadest collection of books was found on Web sites and in large bookstore chains. One store had three shelves devoted to gambling books. However, this also varied. In another chain store, only three books were found that were specifically on gambling. Smaller stores and used bookstores had fewer titles available, but those tended to be of a somewhat higher quality. Clearance houses had a mixture of titles, including some of the poorest materials. The libraries had a limited selection of materials, and while most were of relatively high quality, some were quite old.

Many books were examined in the bookstores or libraries, but we selected only a small number that we felt represented the full range of material in terms of quality and game topics.

Results

The analysis was completed in a three-stage process. First, we went through the books to examine the information. Specifically, we were looking for examples of accurate and inaccurate information in the books. Second, we gathered these notes together into broad categories, which described the general type of information and misinformation that we found. The list of material was gathered in a bottom-up manner from the source books, which was filtered through our understanding of the nature of probability, randomness and gambling economics. Third, we used our notes to catalogue the type of information found in each book. The information categories are listed below.

Information categories

Accurate information (see [Table 1](#))

1. Rules: How to play the games. The discussion of the rules of play range from one or two lines to complete chapters detailing each possible play and the consequences of each choice. Most of the books have a good description of the rules of the game and how to play it.

2. Money management: Several books have detailed descriptions on how to manage money while gambling, others discussed it only briefly. Typically, this material gives rough guides to determining bet size in relationship to the amount of money the player has brought to the game. In some cases, the book describes mathematical rules to determine one's bets. Some of the items discussed budgeting the gaming session in relationship to how much one can afford to lose.
3. Probability: Several books have good sections describing the nature of probability. Some do this in the form of a chapter; other have little bits of information scattered throughout the book. The former is most often found in general books, such as the *Idiot's Guide*, and the latter often in books on poker.
4. Discouraging myths: Some books have sections discouraging the belief in myths or erroneous beliefs about ways to beat the odds.
5. Discouraging problematic systems: Some of the books have good sections warning gamblers about the dangers of systems based on incremental betting. Several books discuss the dangers of the Martingale system in which the players double their bets after a loss. The problem with incremental betting is that it skews the outcome of the play so that most gambling sessions show a profit. This produces an overconfidence in the system so that the gambler quickly escalates the size of their bets. Eventually the player experiences a long losing streak and loses a great deal of money (see Turner, 1998, for further comments on the Martingale system).
6. Short term outcomes: Books on poker, especially, warn gamblers not to take short-term trends too seriously. This advice is given both for winning ("Don't get too confident when you win") and losing sessions ("Don't get upset when you lose").
7. Emotional control: Some of the books discuss the need to maintain control over one's emotions, but few offer any real advice on how to achieve this.

Misinformation errors (see [Table 2](#))

1. Misrepresentation of the likely outcome of winning: Many books are called a Winner's Guide or say that the player can beat the odds. Even relatively good materials sometimes claim that they will help the reader beat the odds.
2. Frequent or infrequent numbers: Some books encourage the reader to look for frequently or infrequently occurring numbers. This advice is the

opposite of discouraging myths.

3. Prediction: These materials encourage the belief in predicting the outcome of a game. In the case of skill games, predictions might be accurate information, but in the case of non-skilled games, this is pure misinformation.
4. Winning strategies: Describes false winning strategies, including the use of money management as a means of winning in the long term. Many books seem to imply that money management techniques can help the player beat the odds. This, of course, is nonsense, but the authors are often careful not to make the claim too explicit. Sometimes the description of the system is so complex that it would be difficult for the average person so see the flaw in the logic.
5. Hot streaks or cold streaks: Many books reinforce the idea that there are such things as hot streaks, or hot tables. One book discusses how roulette runs in streaks and how the player can improve his or her chance of winning by following these streaks. In a sense, hot and cold streaks do seem to occur as part of the natural clumpiness of random events. However, the fact is that streaks are simply part of the unpredictable nature of random events and following them cannot help the player win.
6. Encourage the belief in luck: Many books either implicitly or explicitly encourage a belief in luck.
7. Problematic systems: Some books encourage problematic betting systems such as increasing one's bet after a loss. We have not yet come across any book that encourages the Martingale system — a system of doubling bets after a loss — and some books explicitly discourage it (see Turner, 1998, for further comments on the Martingale system). However, we have read several books that encourage some version of the d'Alembert system (increasing a bet by one unit after a loss, and decreasing it by one unit after a win) and other incremental betting systems. Several books encourage increasing bets while winning. These systems are not as dangerous as the Martingale system, but can still lead the player into large financial problems.
8. Biases: Many books encourage the search for biases. The hallmark of this type of material is that the reader does not need to know why a bias occurred, only how to measure it and track it. Most of the materials that discuss biases do not even address the issue of distinguishing chance from bias. Biased systems are somewhat more difficult to evaluate than other erroneous beliefs because real world

biases do exist that make games somewhat predictable. A weighted dice is an example of a real world bias. In fact, unless care is taken to ensure that the dice are perfectly square and balanced, they will show a bias. Dice used in home board games, such as Snakes and Ladders, often have a bias towards the numbers five and six because the numbers are marked on the dice using holes. The side with one hole is heavier than the other sides, and the side with six holes is the lightest side. After 1,000 rolls of an ordinary board game dice, there is a 2% bias in favour of the five and six (unpublished dice rolls conducted by the first and third authors). However, casino dice, roulette wheels and lottery balls are carefully manufactured to ensure that they do not have a bias, and are tested or maintained to ensure no bias occurs. Nonetheless, biases in many games are possible, so a system that encourages the search for a bias cannot automatically be dismissed as misinformation. However, few of the bias books bring up the issue of finding an apparent bias by pure chance (a type 1 error).

Evaluation of the overall quality of each book

After determining the general nature of the information contained in the books and other material, we went through the notes for each book to determine which type of information or misinformation was found in each book. In addition, we coded this material in terms of its overall impact and have determined a rough (quantitative) estimate of the overall quality of the book which we rated using a school-type grading system ranging from excellent "A" to very poor "F." These grades do not reflect whether or not the book tries to prevent problem gambling in any way, only how accurately it discusses gambling. The categories and overall grade score are given in Table 1. Note that these reviews are not exhaustive. It is possible that specific items mentioned might have additional strengths or weaknesses not discussed here.

Brief annotated book reviews

Table 1

Accuracy of information found in each item and overall score

Books, magazine or video	Overall score	Information

Stanford and Wong: <i>The Complete Idiot's Guide to Gambling Like a Pro</i>	A	Rules Money management Probability Short term outcomes	yes yes yes yes
D. Ortiz <i>On Casino Gambling</i>	A	Rules Money management Probability Discourages systems	yes yes yes yes
A. Cardoza: <i>How to Win at Gambling</i>	C	Rules Money management Discourages systems	yes some some
J.E. Allen: <i>Beat the Odds</i>	C	Rules Probability Discourages systems	yes some some
<i>The Gambler Magazine</i>	C	Rules Discourages systems	yes yes
A.D. Sachar: <i>Winning Strategies for Lotteries and Sports Pools</i>	D	Rules Money management Probability Short term outcomes	yes some some some
J. Simpson: <i>Hot Lotto Numbers</i>	F	---	

C. Gudgeon: <i>Luck of the Draw</i>	C	Rules Probability Debunks myths	yes some some
Professor Jones: <i>The Basics of Winning Lotto/ Lotteries</i>	F	---	
J. Patrick: <i>John Patrick's Roulette</i>	F	Rules Money management	yes some
R.T. Barhart: <i>Beating the Wheel</i>	D	Rules Probability	yes some
<i>Slots with James Coburn</i>	A	Rules Money management Probability Debunks myths	yes yes yes yes
K. Warren: <i>A Winner's Guide to Texas Hold'em Poker</i>	A	Rules Money management Probability Short term outcomes	yes yes yes yes

Wilson software: <i>Turbo Texas Hold'em</i> [poker]	A	Rules Money management Discourages systems* Short term outcomes	yes yes some yes
Edward O. Thorp: <i>Beat the Dealer</i>	B	Rules Probability	yes yes
J. L. Patterson: Blackjack: <i>A Winner's Handbook</i>	C	Rules Money management	yes yes
Andrew Beyer: <i>The Winning Horseplayer</i>	D	Rules Short term outcomes	yes some
John Patrick: <i>John Patrick's Sports Betting</i>	F	Rules Money management Discourages systems	yes some some

Note: The overall grade score (i.e. A or B or F, etc.) was determined subjectively but is roughly equivalent to scoring each yes as a 1, each "some" as 0.5, and then using the following formula: percent grade = 50 + 14 * (total accurate information score) - 6 * (total misinformation score).

*This game/program actively discourages play that is too loose or aggressive and thus indirectly discourages playing "to get even," and any system that involves chasing.

Table 2
Misinformation found in each item

Books, magazine or video	Misinformation						
Stanford & Wong: <i>The Complete Idiot's Guide to Gambling Like a Pro</i>	---						
D. Ortiz: <i>On Casino Gambling</i>	---						
A. Cardoza: <i>How to Win at Gambling</i>	<table border="0"> <tr> <td data-bbox="922 688 1377 730">Winner's guide!</td> <td data-bbox="1386 716 1442 751">yes</td> </tr> <tr> <td data-bbox="922 785 1377 827">Hot and cold streaks</td> <td data-bbox="1386 812 1442 848">yes</td> </tr> <tr> <td data-bbox="922 882 1377 924">Promotes systems</td> <td data-bbox="1386 909 1442 945">yes</td> </tr> </table>	Winner's guide!	yes	Hot and cold streaks	yes	Promotes systems	yes
Winner's guide!	yes						
Hot and cold streaks	yes						
Promotes systems	yes						
J. Edward Allen: <i>Beat the Odds</i>	<table border="0"> <tr> <td data-bbox="922 1018 1377 1060">Winner's guide!</td> <td data-bbox="1386 1045 1442 1081">yes</td> </tr> <tr> <td data-bbox="922 1115 1377 1157">Hot and cold streaks</td> <td data-bbox="1386 1142 1442 1178">yes</td> </tr> <tr> <td data-bbox="922 1211 1377 1253">Luck</td> <td data-bbox="1386 1239 1442 1274">yes</td> </tr> </table>	Winner's guide!	yes	Hot and cold streaks	yes	Luck	yes
Winner's guide!	yes						
Hot and cold streaks	yes						
Luck	yes						
<i>The Gambler Magazine</i>	<table border="0"> <tr> <td data-bbox="922 1348 1377 1432">Frequent/infrequent misinformation</td> <td data-bbox="1386 1396 1442 1432">yes</td> </tr> <tr> <td data-bbox="922 1486 1377 1528">False winning strategy</td> <td data-bbox="1386 1514 1442 1549">yes</td> </tr> <tr> <td data-bbox="922 1583 1377 1625">Hot and cold streaks</td> <td data-bbox="1386 1610 1442 1646">yes</td> </tr> </table>	Frequent/infrequent misinformation	yes	False winning strategy	yes	Hot and cold streaks	yes
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False winning strategy	yes						
Hot and cold streaks	yes						

<p>A.D. Sachar: <i>Winning Strategies for Lotteries and Sports Pools</i></p>	<p>Winner's guide! yes</p> <p>Prediction yes</p> <p>False winning strategy yes</p> <p>Promotes systems yes</p>
<p>J. Simpson: <i>Hot Lotto Numbers</i></p>	<p>Winner's guide! yes</p> <p>Prediction yes</p> <p>False winning strategy yes</p> <p>Luck yes</p>
<p>C. Gudgeon: <i>Luck of the Draw</i></p>	<p>Frequent/infrequent misinformation some</p> <p>Prediction some</p> <p>Luck some</p> <p>Biases some</p>
<p>Professor Jones: <i>The Basics of Winning Lotto/ Lotteries</i></p>	<p>Winner's guide! yes</p> <p>Frequent/infrequent misinformation yes</p> <p>False winning strategy yes</p> <p>Luck yes</p> <p>Biases yes</p>

<p>J. Patrick: <i>John Patrick's Roulette</i></p>	<p>Winner's guide! yes</p> <p>Hot and cold streaks yes</p> <p>Promotes systems yes</p> <p>Biases yes</p>	
<p>R.T. Barhart: <i>Beating the Wheel</i></p>	<p>Winner's guide! yes</p> <p>False winning strategy some</p> <p>Biases yes</p>	
<p><i>Slots with James Coburn</i></p>	<p>Winner's guide! yes</p> <p>False winning strategy yes</p>	
<p>K. Warren: <i>A Winner's Guide to Texas Hold'em Poker</i></p>	<p>Winner's guide! yes</p>	
<p>Wilson Software: <i>Turbo Texas Hold'em [poker]</i></p>	<p>---</p>	
<p>E.O. Thorpe: <i>Beat the Dealer</i></p>	<p>Winner's guide! yes</p>	
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General books

General books on gambling tend to have accurate information because they are not really trying to sell a system per se, but are directed towards the novice gambler. They tell the reader how to play more than how to win. However, there is a common tendency of publishers to advertise gambling books as having winning strategies. Even fairly accurate books call themselves "winning strategies." These books should be read with some skepticism, but our experience is that most of these books provide accurate information. The best books in this category have sections on probability, and they debunk myths, discuss money management and explain why players will most likely lose in the long run. We have come across several books in this category, which appear to be excellent resources on gambling in general.

The Complete Idiot's Guide to Gambling Like a Pro by Stanford Wong and Susan Spector (1996) is a good general introduction to gambling. In addition to the rules it has a wealth of good information, including sections on money management, psychology and a glossary of gambling terms. Unlike most books, it does not encourage betting the maximum numbers of coins on slot machines, it encourages betting what one is comfortable with. The authors also provide a good introduction to probability and, in general, provide accurate information to the novice gambler. They also have a good section on the concept of luck, which discourages the reader from taking the idea of luck too seriously. The only objection we have to this book is that the authors jokingly encourage the reader to use slot machines as a way of testing out psychic ability. It would have been better if they had provided a disclaimer that by pure chance, it is often likely that people will appear to have their "psychic ability" confirmed. However, we consider this to be a minor point. Overall, this is an excellent introduction.

On Casino Gambling by Darwin Ortiz (1986) is also one of the better general introductions we have come across. This book has a brief introduction to probability, discourages myths, and has an excellent discussion of betting systems, such as doubling up after a loss, and the financial disaster that can result from following such a system.

How to Win at Gambling by Avery Cardoza (1997) is similar to many other general introduction books on the market: it has extensive sections on how to play blackjack, encourages placing free odds bets in craps, and then goes on to explain the rules of a smattering of other games. The book focuses on games where the player can affect the outcome, such as blackjack. It has an involved description of craps, encouraging people to place free odds bets. It does mention that even with free odds bets the player is still playing against a house edge, but it also implies that one can beat the edge by combining increased bets while winning and placing free odds bets. On the plus side, though, it has a reasonably extensive discussion of why incremental betting systems are dangerous; however, the warning seemed to be too soft. In terms of misinformation, it encourages increasing bets after a few wins to take advantage of hot streaks. The coverage of how to minimize the house edge in blackjack and craps legitimizes their claim to provide "winning" strategies, but these strategies are not unique secrets and will not allow players to beat the house in the long run. It also suggests that card counting in baccarat is possible even though the general consensus amongst card counting experts is that card counting in baccarat is of little value (Arnold, 1978; Ortiz, 1987).

Another annoying feature is that the book advertises other products by the same publisher. For example, it introduces the idea of card counting and then

suggests that the reader who wants more information can purchase another, much more expensive book. A lot of the books on gambling include advertisements for other materials. This book contains a lot of good information about how to play specific games, but is overall a mediocre book on gambling. It is somewhat hard to follow and poorly organized.

Beat the Odds: How to Win at Gambling by J. Edward Allen (1993) is fairly similar to Cardoza's book in format but is considerably shorter. Like Cardoza's book, it has a lot of ads for other expensive books and courses. Also like Cardoza, Allen encourages taking free odds bets in craps. The most notable difference from the other book is the extensive set of instructions for playing video poker at a minimum house edge. While the book encourages money management and not betting beyond ones means, when it comes to video poker it throws away those cautions and encourages betting the maximum number of coins. However, to be fair to Allen, we should point out that the house edge is much lower in video poker if the player makes the maximum bet.

This book has instances in which it reinforces the idea of luck. On the plus side, it does discourage betting systems; however, again on the negative side, some of its advice is nonsense. For example, near the end it tells the reader to "Leave a winner if possible. A small win is better than any loss. You can't go wrong leaving a winner, remember that. Let's win."

The Gambler is a magazine available for free at numerous casinos in Ontario. Other jurisdictions have similar free publications. This magazine contains both accurate and inaccurate information. For example, an article on poker identified different types of poker players and gave strategy suggestions for each type (Steinberg, 2000). An article on blackjack (Tamburin, 2000) listed the effect of various rules on the house edge. Meanwhile, an article on slots (Mitchell, 2000) encouraged progressive slot players to play when the jackpot is big because the "mathematical odds" are that it will hit soon. The same article went on to encourage smart players to play after the tourists had finished priming the machines (e.g. from 2 to 4 am, or on Mondays). Thus, this magazine provides a mixture of good information and myths.

Overall most of the general materials on gambling appear to be reasonably accurate descriptions on how to gamble. However, as indicated above, some resources are better than others. Three other general books on gambling that we would recommend are *What Are the Odds?* (Orkin, 1999), *The New Gambler's Bible* (Reber, 1996) and *Gambling for Dummies* (Harroch, Krieger & Reber, 2001). These, however, have not been included in the tables due to space limitations.

Material on non-skill games: Lotteries

Winning Strategies for Lotteries and Sports Pools by A.D. Sachar (1992) is a curious blend of nonsense and truth. On the one hand, the book tells the reader how to determine if you have a talent for predicting lottery numbers. On the other hand, it discusses expected return, debunks some myths about numbers that are "due" to come up, tells the reader how to keep records to accurately judge success, discourages excessive spending, warns the reader about short-term fluctuations in chance, and so on. We give it a passing grade since it might actually do some good to people who find out they do not have predictive ability. Of course, those who figure out that they have a "luck" ability (see pp. 31—35) might be in real trouble.

Hot Lotto Numbers by Jean Simpson (1987) applies numerology to picking lucky lottery numbers and includes many charts. This book contains a short (12-page) description of the system, and the rest of the book is taken up with numerous charts and tables. The system is essentially a way of generating erratic or random-looking numbers to bet on. As a number generation process the system accomplishes its goal, but the numbers are more spaced out than true random numbers. The book promotes the myth that some numbers are lucky or hot and that it is possible to mathematically predict winning numbers. Reading it one almost gets the sense that the author was writing it as a joke.

Luck of the Draw by C. Gudgeon (1995) is not a book on how to play per se, but a factual account of how various people's lives have been affected by large lottery wins. Along the way, it does, however, give a number of tips on playing from the various winners mentioned in the book. In general, many of the stories describe relatively positive outcomes, but the book also describes a number of people that spent their way through the money or were hit by a series of other tragic events after the lottery win.

While some of the information on lotteries is accurate, the book also makes erroneous claims. For example, at one point it says that the player is better buying two tickets for one lottery than two tickets for two different lottery draws, which is not true. In both cases, the player has two chances of winning and it does not matter at all if those two chances are for the same draw or for different draws. It also feeds into the myth that systems that use past numbers or systems that use a wheel approach for placing bets (a systematic approach to covering as many numbers as possible) may increase one's chance of winning. While the book does not advocate these systems, it does little to discourage them. The book does correct some erroneous beliefs, but encourages others. This book is worth reading since it provides a lot of insight into the lives of lottery players; however, as an advice

book it receives a score of C. This book has been recently revised and expanded.

The Basics of Winning Lotto/Lotteries by Professor Jones (1994) offers sheer nonsense. The first part tells the reader how to search for biases in the numbers that come up. A diagram is given illustrating how differential drag might cause biases. However, the author states that the player does not need to know the how or why of biases, but only needs to measure them and profit from them. The second chapter tells people how to keep track of numbers that are due to come up. Logically, the benefit of keeping track of infrequent numbers and the benefit of keeping track of frequent numbers should cancel out — which, of course, they do. But Prof. Jones will never be wrong technically; odds are that if a number has not come up recently either it will not come up, supporting the "bias" theory, or it will come up, supporting the "due to come up" theory. As a result, the book will never be wrong, but at no point will the player be able to win by following this system (except by chance).

Material on other non-skilled games

John Patrick's Roulette by John Patrick (1996) is mostly nonsense about trends. Patrick has created a large number of books and videotapes on gambling and conducts seminars on how to gamble. Much of the system is based on the belief that if red is showing it will keep showing, and so on. The book also passes off money management as the key to beating the house. In addition, the book's tone is rather patronizing; at times even insulting

Beating the Wheel by Russell T. Barnhart (1992) is the most sophisticated of the bias systems books we read. Unlike the other books that cover biases (Jones, 1994; Beyer, 1994), this book does discuss the physics behind why biases occur (e.g. faulty maintenance, poor design, tampering). It also stresses the importance of long-term observations to detect biases. Biased wheels almost certainly do exist, but making money from them may be much more difficult than the book implies. According to the book, if a wheel has a bias, a player should be able to detect it after 800 observations (several hours watching a specific wheel). Even the author admits that after 800 spins the bettor has a 20% chance that the bias is merely a type 1 error (finding a bias that is really only a random chance fluctuation). That's an expensive margin of error. Our own simulations have shown that to detect a weak bias would require as many as 4,000 observations.

The book is interesting as a historical account of biased wheel systems and criminal scams to cheat the wheel, but it is likely to lead most readers down the garden path into the realm of the type 1 error. The cover claims that the

system was used to win over \$6 million. However, it turns out that most of these wins were the result of various criminal conspiracies. For example, one syndicate in Europe rigged wheels by replacing the screw holding the frets that separate numbers on the wheel with a smaller one so that the frets would be loose. When the ball hit a loose fret, it would bounce less, causing the ball to slow down and thus creating a bias for that part of the wheel. Today frets with screws are no longer in use. In addition, electronic sensors record every roll of the wheel so that the casino would most likely detect a bias (real or type 1 error) before the player would have a chance to profit from it. Thus, bias systems are really a thing of the past (Ortiz, 1986).

Winning Strategies: Slots with Video Poker (Scoblete, 1997), a video tape frequently advertised on television, is actually quite a good slots video. James Coburn hosts the introduction to the video; Frank Scoblete narrates the rest of the video. It discourages myths, tells the reader how the machines work and encourages money management. It encourages betting max coin (the maximum bet permitted), but also stresses the importance of figuring out what one can afford to bet. Our only real complaint about this video is that it is advertised as a guide to winning, but it really only tells the reader how to avoid losing too much. We suspect that a lot of people who purchase this video will be upset upon realizing that it does not actually tell them how to win. As with many materials on gambling, it contains a plug for another product: a video on how to play video poker. Some parts of this video, such as the section on myths, would be good for clients in treatment for problem gambling, but caution is advised in that the video is intended to promote slot play, not to prevent it. (See Turner, 2001, for a more extensive review of this video.)

Material on skill-oriented games: Poker

Most of the information we have seen in books on how to play poker is quite accurate. Poker books often talk about the short-term vagaries of chance. For example, a book might warn the reader how sometimes they will see someone win a hand with a poor starting set of cards (a 2 and a 4 unsuited), while someone else with a pair of aces might be beaten. Such events do happen, but the player is discouraged from changing their strategy when such an event occurs. They encourage the good player to be patient because over the long term, skill will produce success.

We have not yet seen a bad book on how to play poker. However, these books usually do not accurately describe the difficulty of becoming a professional card player but make it seem as if poker is a realistic way of making money.

A Winner's Guide to Texas Hold'em Poker by Ken Warren (1996) is a comprehensive description of how to play Texas hold'em poker, one of the most common versions of poker found in casinos. It contains a wealth of information about the chances of winning the pot given one's cards and the bets of other players. It does not have a section on probability, but scattered throughout are references to probability. For example, on pages 48 and 49, the author writes: "It is likely that you will go through long periods of not getting a playable hand.... Don't get discouraged. It's normal and you should not let it affect your decisions. The important thing to remember is that your goal is not to play hands of poker, but to make the best decisions."

Tables on the chances of winning with various combinations of cards are provided at the back of the book. Practical suggestions are given for virtually any hand. Generally, the reader is encouraged to play conservatively and wait for good cards, but to play aggressively when he or she has good cards.

Turbo Texas Hold'em by Wilson Software (1997) is an elaborate computer program designed to teach how to play hold'em poker. In addition to basic game play, the program provides extensive statistics on playing style, including how loose or aggressive the user plays against the computer opponents. The opponents in this game are not random, but have programmed profiles about how they should react to a large number of specific poker situations. The profiles are designed to match the types of players one might meet around the average poker table, with names that are amusing and relevant. The game comes with 40 pre-designed profiles. Player profiles vary from tight (folds most hands) to loose (stays in most hands) and from passive (checks or calls, but rarely bets or raises) to aggressive (bets or raises). The user can select their opponents to practice playing against specific types of players such as loose-and-aggressive players or tight-and-passive players to learn how to counter these styles. The user can also create custom profiles for the opposing players. The program provides an incredible wealth of information on strategies and probabilities. A player that thinks he or she is as good as the best might get a wake-up call with this tool. The program does not deal with the emotional side of gambling, but overall is an excellent way to learn how to play hold'em poker.

Because one of the authors (BF) is an avid poker player, we have included a few additional references on that game, which were not included in Table 2. Some poker books are written for serious players of a specific form of poker, such as *Seven Card Stud for Advanced Players* by Sklansky, Malmuth and Zee (1991). In contrast, Steiner's (1996) *Thursday Night Poker* is intended for casual recreational players. Caro's (1986) *Poker for Women* describes how women can gain an edge over men in poker by taking advantage of male players' tendency to underestimate female opponents, or gentlemanly

courtesy towards female opponents. The book is directed towards novice players. *Poker for Dummies* by Harroch and Kreiger (2000) is oriented toward the novice player who might be beginning to play in public card rooms. This book covers the most common forms of poker dealt in a casino (i.e. seven card stud, hold-em, Omaha, etc.).

These books contain valuable information for novice players or for players seeking to improve their skill. Statistical reasoning, bluffing, money management and reading opponents are discussed. Presumably, poker skills can be improved through reading and practice. *Poker for Dummies* is an excellent book for counsellors seeking to learn more about the game and today's poker scene. Clients in treatment for gambling problems, however, should be cautioned that most poker books underestimate the difficulty of becoming a professional player. Players who succeed financially are statistically rare, and those who earn more than a minimum wage are rarer still (Hayano, 1982). Success at poker requires emotional control and discipline, in addition to knowledge about the game. Little information on how to obtain or maintain emotional control is found in these books.

Material on skill-oriented games: Blackjack

Beat the Dealer by E.O. Thorpe (1966) is a great book, a classic; it is a must read for any historian on gambling. Not only fun to read, the book has a lot of carefully considered mathematically-based rules for playing blackjack. Thorpe first describes in detail the basic system for blackjack and the computer simulations used to compute the optimal system for play. He then goes on to describe modification to the basic strategy depending on the cards that have been drawn previously (card counting). The book is out of date in that a lot of the rules of blackjack no longer apply — they were changed because of this book. However, it is still an interesting book.

Blackjack: A Winner's Handbook by J.L. Patterson (1990) has a lot of good material in it, including a bibliography on blackjack; various card systems; money management; and drills to learn card counting. It is also the only book we have seen that gives concrete advice on how to attain and maintain emotional control. Patterson also discusses how to play in the modern casino where card counting is no longer always possible. One of the clear messages from the book is that card counting is not an easy way to make money.

On the down side, this book discusses the search for table biases as a result of like-card clumping, and the advice is a lot like other books that discuss biases. The validity of his claim regarding like-card clumping is difficult to evaluate. On the one hand, shuffling, as he says, is not an efficient randomization process, but clumpiness is also a common occurrence in the

normal nature of random events (Gould, 1991). Patterson might be underestimating how clumpy randomness is supposed to be. But the solution to the clumpiness problem, shuffle tracking, is logical and might work whether or not cards are showing a bias or merely showing random variation. In shuffle tracking, the player first card counts to determine if a section of cards in the deck is favourable to the player (more high cards than low cards) or unfavourable to the player (more low cards than high cards). Then, while the cards are being shuffled for the next session, he or she keeps track of the clumps of player-favourable cards counted in the previous session, and bets more during the player-favourable clumps. This system should theoretically produce an advantage to the player.

Some of his other suggestions are definitely based on misconceptions about random numbers. For example, his Takedown strategy is a system of incremental betting that promotes the illusion that a mathematical system for bet size could somehow provide the player with an edge. Although the book includes some misinformation, overall, it appears to be worth reading, especially for its discussion on discipline and self-control.

Material on other skill-oriented games

The Winning Horseplayer by Andrew Beyer (1994) includes both extremes — some good advice and some poor advice. In the 1970s and 1980s, Beyer popularized speed handicapping, a method for adjusting performance figures to determine the true speed of a horse. However, since most people now use speed handicapping (due in part to Beyer's book on this technique), adjusted speed is no longer a sure way to make money. This book deals with trip handicapping in which the punter adjusts the speed figures for a horse to take into account the actual circumstances of previous races. For example, if a horse was boxed in (one horse right in front of him and another beside him) during the early part of the race, but went on to come in third, its overall speed is an underestimate of its actual ability. If other bettors were not aware of this fact, the payout odds for that horse might be high enough to overcome the house edge. Trip handicapping is likely to be an effective means of finding underrated horses to bet on. But the system requires a lot of observation and is thus really only practical for people that spend day after day at the races.

On the plus side, the book includes a step-by-step guide on how to read the daily racing form. On the negative side, the section on tracking biases may be pure nonsense. The discussion of biases was written in the same manner as Prof. Jones's lottery book and even used similar words about not needing to know how the bias occurred. According to the book, sometimes a track will have a bias in favour of the outer part of the track, while at other times, a bias

in favour of the inside track. Biases are determined by looking for unusual events such as horses that run on the outside winning more often than usual. Since both inner and outer track biases occur, it is likely that both biases are merely observations of normal random events. However, as with roulette, we can not rule out the possibility that an actual track bias might occur due to the firmness of the track or a recent rainfall. The manner in which Beyers describes the biases mysteriously emerging for a short period of time and then disappearing again suggests that these biases are type 1 errors — random chance events. Interestingly, since speed handicapping does work and would provide important information, it is unlikely that the player would ever notice if biases were not contributing anything to the system. However, the problem with trip handicapping is that it normalizes the obsessive study of the track and the progress of the race.

John Patrick's Sports Betting (1996) is similar to his book on roulette. It is patronizing and filled with his own theories about trends. Like the books promoting biases (Beyer, 1994; Jones, 1994), he argues that one does not need to know why a trend occurs. For example, he says: "In sports betting, as in every other betting endeavor, trends dominate. Why? I dunno. I haven't got a clue as to why they dominate, but they do" (p. 9).

Wood (1992) has demonstrated that trends and streaks in sports games occur no more often than is expected taking into account the underlying ability by team and random chance. Trends per se, have no predictive power. Ironically, the belief in streaks may sometimes open up betting opportunities for astute handicappers to bet against the streak (Paulson, 1994). As in his roulette book, Patrick (1996) is careful to describe his theory of trends in such a way that his theory will always make a correct prediction. Not only does he advocate the occurrence of winning streaks, he also makes it clear that the opposite streak could occur at any minute (see the story of Ben. A. Loser, p. 10). The same point is made above about Professor Jones's book. His theory can never be proven wrong through experience because the two opposite outcomes are always predicted.

Interestingly, Patrick (1990) explicitly rejects the idea of handicapping sports games and the value of team statistics (p. 4). On the plus side, the book does emphasize money management and not betting more than one can afford. The book does discourage doubling after a loss and ridicules the idea of luck. In terms of information, the book discusses the various types of bets available and the pros and cons of each, but we found his explanation of how to read the line rather hard to follow. On the negative side, he encourages incremental bets while winning. He also presents his theory of regression betting — not reinvesting all of the money that was won, but keeping some of it — as if it were a way of making money in the long term. This book is the

only skill-oriented book we reviewed that we have given a failing grade.

Web sites

In recent years, a growing amount of information on gambling has become available on Web sites. Some sites are game specific, while many others offer information on a wide range of games. Some sites offer good information (www.wizardofodds.com), others offer a mixed quality of information (www.clubchance.com), and others offer mostly inaccurate information (www.lotterysoftware.com). All of these sites, good or bad, either contain advertisements for online casinos and other gambling venues, or are trying to sell some product that is supposed to improve ones chance of winning. In many of the mediocre Web sites one has to hunt around for accurate information amongst the advertisements and product promotions. One site, www.professionalgambler.com, offers a service selling statistical information to serious sports gamblers to help them place their bets. However, it also includes a tongue-in-cheek section on 10 ways to throw away money in sports betting in which it discourages poor betting strategies such as increasing bets to make up for losses and other harmful systems of play. We do not have the expertise to evaluate the legitimacy of their statistical information, but the information related to responsible gambling is unusually good.

The best Web site we have found so far is the Wizard of Odds site (www.wizardofodds.com). This site includes a question-and-answer section for topics that are not covered by the Web site. This site also includes an annotated bibliography of books on gambling.

Information and ratings of the online sites can be found in [Table 3](#) and [Table 4](#).

Table 3:
Accuracy of information found on Web sites

Web sites	Overall score	Information

www.wizardofodds.com	A	Rules yes Money management yes Probability yes Debunks myths yes Discourages systems yes Short term outcomes yes
www.clubchance.com	C	Rules yes Money management yes Debunks myths yes
www.professionalgambler.com	B	Rules yes Money management yes Debunks myths yes Discourages systems yes
www.lotterysoftware.com	F	Rules yes

Table 4:
Misinformation found on Web sites

Web sites	Misinformation												
www.wizardofodds.com	---												
www.clubchance.com	<table> <tr> <td>Winner's guide!</td> <td>yes</td> </tr> <tr> <td>Hot and cold streaks</td> <td>yes</td> </tr> <tr> <td>Luck</td> <td>yes</td> </tr> <tr> <td>Promotes systems</td> <td>some</td> </tr> </table>	Winner's guide!	yes	Hot and cold streaks	yes	Luck	yes	Promotes systems	some				
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www.lotterysoftware.com	<table> <tr> <td>Winner's guide!</td> <td>yes</td> </tr> <tr> <td>Frequent/infrequent misinformation</td> <td>yes</td> </tr> <tr> <td>Prediction</td> <td>yes</td> </tr> <tr> <td>False winning strategy</td> <td>yes</td> </tr> <tr> <td>Promotes systems</td> <td>yes</td> </tr> <tr> <td>Biases</td> <td>yes</td> </tr> </table>	Winner's guide!	yes	Frequent/infrequent misinformation	yes	Prediction	yes	False winning strategy	yes	Promotes systems	yes	Biases	yes
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Frequent/infrequent misinformation	yes												
Prediction	yes												
False winning strategy	yes												
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Biases	yes												

General discussion

An examination of the material available on gambling reveals, first, that a large number of books and other materials are available on gambling. The majority of these items are on games of skill. The relative percentage of different materials varied in each of the three sources we examined. Both the libraries and the bookstores included more general items on gambling, while the Web site catalogue of resources was heavily geared towards skill-oriented games. It is likely that more books exist on specific skill games, but

that the market for general books on gambling is larger. The on-line catalogue reflects the numbers of titles available on skill games, but the audience for many of these materials is rather small.

Detailed examination of the materials revealed a few important facts. First, there are good books on how to gamble that accurately portray the nature of randomness and the chances of winning. There are also a lot of poor quality books available; some filled with misinformation or myths that encourage the reader to make bad decisions.

Most of the books reviewed have some combination of accurate and inaccurate information. One important implication is that public information on gambling and problem gambling should include information about good and bad sources of information on gambling. Professionals in the field of problem gambling need to somehow inform the public about the misinformation present in some books. This paper is a start in that direction. However, monitoring the quality of books on gambling would be an enormous task. The greatest difficulty in accomplishing this goal would be in the area of skill-oriented games. Systems for card games are relatively easy to evaluate because it is easy to compute the probability of drawing each specific type of hand. Computer simulations of these systems can be time-consuming, but usually yield precise answers. However, a book that offers a system of handicapping in some sport (horseracing, football, etc.) may or may not be providing accurate information to their readers. The validity of the system can only be determined with extensive research and computer simulations. Our interest in this field is in protecting consumers from misinformation; however, not in evaluating the relative merits of one type of handicapping over another. A more modest goal might be the publication of a list of recommended and not recommended sources of information on gambling.

The results indicate that a lot of written material on how to gamble is on the market. Some of this information is good, some of it potentially quite harmful. A persistent observation through this research process was the staggering number of publications on how to "win." Even fairly good books describe themselves as offering "winning strategies." This is not surprising; it is hard to imagine people buying a book on "how to lose." Unfortunately, this likely presents a barrier to getting good information out to the public. We suspect that would-be gamblers are more likely to read something entitled "How to win" than something entitled "How not to lose too much." Can truth compete with lies in an open market? Is it possible to encourage the publishing industry to publish books that are more accurate?

In addition, we found few materials that cover the topic of emotional control or the psychology of gambling. Perhaps professionals in the treatment and

prevention fields could create self-help guides to staying in control geared towards the audience of people that read the books on how to gamble.

The data provided in this paper actually underestimates the total number of materials that the gambler can draw on. We did not count materials specifically on sports games, but only those that were marketed as gambling materials. Bookstores often have several shelves of material available on sports games. These books include materials on how to play, how to coach games, statistics on teams or biographies of players and coaches. Gamblers may read such material in the hopes of improving their betting strategy. We also did not count the number of materials on investments because of the difficulty in separating sound investing from gambling. One of the bookstores we visited had over 800 books available on investing and finance. The task of monitoring the quality of investment advice would be a much greater challenge than the task of monitoring gambling materials.

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For correspondence:

Nigel Turner, PhD

Centre for Addiction and Mental Health

33 Russell St.

Toronto, Ontario, Canada M5S 2S1

E-mail: Nigel_Turner@camh.net

Phone: (416) 535 8501 ext. 6063

Fax (416) 595 6899

Nigel Turner received his doctorate in cognitive psychology from the University of Western Ontario in 1995. He has worked at Centre for Addiction and Mental Health for the past five years where he has developed psychometric tools to measure addiction processes. He is currently focused on understanding the mental processes related to gambling addiction. He has extensive experience in various research methods including psychometrics, surveys, experimental studies, computer simulations, interviews and focus groups. He has published several papers in peer-reviewed journals, and he has made numerous conference presentations.

Barry Fritz is a professor of psychology at Quinnipiac University, Hamden, Connecticut. He is a member of the board of the Connecticut Council on Problem Gambling. He graduated with a BA from the University of Vermont, an MA from Connecticut College, and a PhD from Yeshiva University. "My current research interests are focused on understanding the motivation to gamble and those factors which differentiate between problem gamblers and recreational gamblers. I enjoy the game of poker and hope that my research will keep me on the recreational side of the table."

Bronwyn MacKenzie is research analyst in the depression clinic at the Centre for Addiction and Mental Health. Bronwyn completed an honours B. A. in psychology at York University (Toronto) and has completed the graduate certificate programme in pathological gambling from the Virginia Commonwealth University. She has co-authored numerous conference papers, proceedings, and reports in the area of gambling and alcohol policy. She is first author of a chapter on the privatization of retail alcohol in Alberta to be released in the spring of 2004 by McGill-Queen's University Press. She has also written over 30 articles in popular Canadian magazines. She is a member of the peer review board of eCOMMUNITY: International Journal of Mental Health and Addiction and a board member of the Toronto Adult Student Association.

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Book review

[This article prints out to about four pages.]

When the Chips Are Down: Problem Gambling in America.

By Rachel A. Volberg. (2001). New York: Century Foundation Press, ISBN: 0-87078-469-2 (paperback). Price: US\$ 14.00.

*Reviewed by Henry R. Lesieur, PhD
Rhode Island Gambling Treatment Program
Rhode Island Hospital
Providence, Rhode Island, U.S.A.
E-mail: hlesieur@aol.com*

The book is divided into six chapters: 1. Introduction; 2. What Is Problem Gambling?; 3. Legal Gambling and the Emergence of Problem Gambling; 4. What is the Extent of Problem Gambling?; 5. Addressing Problem Gambling; 6. The Policy Challenges. The book is written in clear prose and is well organized.

The introductory chapter is brief (actually the kind of thing you see in a preface) but sets the stage for what follows. The second chapter gives a quick overview of definitional issues (in which problem and pathological gambling are spelled out). The medical and harm reduction approaches to problem gambling are then discussed, followed by a review of some of the individual, family, workplace, financial and legal impacts of problem gambling. A brief account of causal theories of problem gambling is made. This is all information that is useful for neophytes unfamiliar with the issues.

The book leaves out youth gambling and a discussion of heavy, non-problematic gamblers. This is a shame as there is some decent research available on both topics. Adolescent gambling has been reviewed by Griffiths and there is an ongoing research program at McGill University worth mentioning. Even a recommendation to look at Griffiths' and Sue Fisher's works in the U.K. would be informative.

Chapter 3 reviews the evolution and expansion of gambling in the United States. A discussion of opposition forces in the legalization drive and quirks in the American system of legalization (especially with regard to riverboat gambling) is followed by a review of data on the age, gender and ethnicity of gamblers. I found myself wishing that Volberg would speculate beyond the data to explain some of these patterns. For example, blacks are more likely to be weekly gamblers than non-blacks, but less likely to have gambled in the past year. One could speculate that, like patterns of alcohol use and abuse, this may be explained by religious factors. Blacks are more likely to be fundamentalist Christians, thus limiting their overall drinking and gambling. Clearly, further research is needed.

Volberg shifts her discussion to changing patterns of gambling frequency in states she has studied. Her conclusion that people increase their gambling when gambling is legalized and then decrease it over time is quite interesting and worthy of note. In particular, Figure 3.2 needs to be examined carefully by those who assume that legalization inevitably means a steady increase in the extent of gambling. The topic of problem gambling emerges in the last four pages of the chapter, primarily in a discussion of the shift in perspective from gambling as "bad" to a perspective sanctioned by the American Psychiatric Association that defines excessive gambling as "sick" behavior.

In Chapter 4, the reader confronts technical discussions of different measures of problem gambling like the South Oaks Gambling Screen, SOGS-R (for Revised), and the National Opinion Research Center's Diagnostic Screen for gambling problems (NODS). The rate of problem and pathological gambling and whether it is changing over time (Volberg's answer is that the data are mixed), and the relationship of change to the presence of treatment services, are discussed. This chapter also gives an overview of the risk factors for problem gambling in the general population. In this vein, Volberg does not confine her discussion to individual demographic characteristics but also considers the spread of convenience gambling and event frequency as possible contributors to problem gambling. In particular, there are the potential policy implications of the relationship between legalization of electronic gaming devices and increases in problem gambling among women. In this chapter she relies on data from other countries as well as the United States. She notes that data on the "outflow" of pathological gambling

is higher than previously acknowledged. In other words, a substantial per cent of individuals classified as pathological gamblers at one point in time are no longer classified as having a problem at a later point in time. However, the number of individuals with intractable problems may increase.

Volberg turns to the issue of addressing problem gambling in Chapter 5. Reading this chapter, it would appear that the casino industry is doing more to raise public awareness of "disordered gambling" (the term the gambling industry prefers) than many state governments. While she points out what is happening in Canada, a more thorough discussion of what has happened in the different Canadian provinces as well as New Zealand and Australia could teach the reader how things could be different if state governments took a more proactive stance. Available treatment is another area addressed. Unfortunately, some of this information is already out of date. For example, Trimeridian no longer operates an inpatient facility. In fact, the failure of different inpatient treatment facilities and the necessity for state funding to support such operations would be a story on its own. Volberg's discussion of treatment evaluations is worth examining. When she turns to research on problem gambling her discussion is narrowly focused on prevalence surveys and funded research. It ignores quite a bit of research conducted outside of those realms. When she comments near the end of the chapter on funding in the U.S. versus Canada and Australia, the paucity of public commitment to addressing the issue in the United States is clear. U.S. funding would have to be increased by 880 per cent (to \$.99 per capita) in order to equal the funding level in Australia.

Volberg winds up the book by outlining the public policy challenges that lie ahead in the United States. She points out the contrast between the lessons of alcohol and tobacco. While not stating it specifically, in Volberg's view, it appears that the gambling industry has learned to take lessons from both, partially because, as she states, gambling, like alcohol, was successfully medicalized (in the United States in any case). However, when it comes to attempts by specific individuals to sue the industry, they have typically failed. Whether tobacco-like legislation would ever be successful is another matter, primarily because, unlike tobacco, many states actively promote gambling.

Her argument that each state should have one regulatory agency to oversee all gambling in the state makes much sense. Instead of having a Lottery Commission, Charitable Gaming Board, Racing Commission and Casino Control Commission, as do many states in the U.S., one agency, a gambling regulatory board would exist. I would add that this agency should have a problem gambling advocate as a member. The board would be able to oversee self-exclusion programs, make sure that fines for violations (either by the gambler or the facility) would go to a problem gambling treatment fund,

and would ensure that problem gamblers and their family members were considered in decision-making.

The discussion of the scattered approach taken by different federal agencies is quite telling. There is no coordinating agency at the federal level in the United States. Volberg calls for a national clearinghouse for information as well as some agency that would coordinate regulatory efforts and provide help to the states. I would call for the involvement of the World Health Organization in setting up uniform standards like those devised for alcohol; an effort to do just that is being championed in New Zealand.

Dr. Volberg's view is clearly that of a sociologist, with both the advantages and drawbacks of that position. While not exhaustive (to do so would require excessive length), the information that is presented is empirically based. There are references for virtually every statement made in the book. Volberg's call for federal involvement, along with her advocacy of a public health perspective that focuses on efforts to keep the social costs down, are features that makes this book a worthy read.

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*For correspondence:
Henry R. Lesieur, PhD
Rhode Island Gambling Treatment Program
Rhode Island Hospital
235 Plain Street
Providence, RI 02905 U.S.A.
Phone: (401) 277-0721
Fax: (401) 277-0744
E-mail: hlesieur@aol.com*

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33 Russell Street

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E-mail: Phil_Lange@camh.net

Phone: (416)-535-8501 ext.6077

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Lesieur, H.R. (1984). *The Chase: The Career of the Compulsive Gambler*. (2nd ed.). Rochester, VT: Schenkman Books, Inc.

Book chapters

Shaffer, H.J. (1989). Conceptual crises in the addictions: The role of models in the field of compulsive gambling. In H.J. Shaffer, S.A. Sein, B. Gambino & T.N. Cummings (Eds.), *Compulsive Gambling: Theory, Research, and Practice* (pp.3-33). Lexington, MA: Lexington.

Journal articles

Gupta, R., & Derevensky, J. (1997). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies*, 14 (4), 319-345.

Miscellaneous articles, including government publications

Ontario Ministry of Health. Schedule of Benefits, Ontario Health Insurance Plan. Kingston, Ontario: Ontario Ministry of Health; April 1987.

Papers presented at a conference, meeting or symposium presentation

Ganzer, H. (1999, June). A seven session group for couples. Paper presented at the 1999 13th National Conference on Problem Gambling, Detroit, MI.

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Brehl, R. (1995, June 22). Internet casino seen as big risk. *The Toronto Star*, pp. D1, D3.

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<http://www.gamb-ling.com>

A multilingual gambling information Web site in 11 languages (Arabic, Chinese, English, Farsi, Hindi, Italian, Portuguese, Russian, Somali, Spanish and Urdu). Information in audio formats and through these click-on topics: "What's problem gambling?," "Do I have a problem?," "Get help," "Ethno-cultural resources," "Library" and a help-line number.

<http://www.ncpgambling.org>

National Council on Problem Gambling : to increase public awareness of pathological gambling, ensure the availability of treatment for problem gamblers and their families, and to encourage research and programs for prevention and education.

http://www.gov.ab.ca/aadac/addictions/subject_gambling.htm

Alberta Alcohol and Drug Abuse Commission: information, brochures and survey results

<http://www.responsiblegambling.org>

Responsible Gambling Council (Ontario): information, publications and calendar of international gambling-related events

<http://www.ncrg.org>

National Centre for Responsible Gaming: funding for scientific research on problem and underage gambling

<http://www.problemgambling.ca>

Problem Gambling: A Canadian Perspective Website (Gerry Cooper): annotated international links



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