

BRIEF REPORTS

Can Advertising Increase Awareness of Problem Gambling? A Statewide Survey of Impact

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With the rapid rise of state-sponsored gambling during the 1990s, the number of problem gamblers increased as well. In this study, 800 Indiana adult residents were randomly surveyed to evaluate the impact of a statewide advertising campaign designed to increase awareness of problem gambling. The pre- to postcampaign telephone survey (with 400 independent respondents at each time point) targeted (a) the impact of the advertising campaign and (b) general awareness of problem gambling issues. Results indicated, overall, little impact of the ad campaign and a low rate of exposure to it (8%). Billboards and slogans appeared to be the methods with strongest impact. The sample had a positive view of problem gambling awareness campaigns and appeared quite knowledgeable about problem gambling in general. Awareness of state resources to aid problem gamblers was lower. Results are discussed in relation to the study methodology, and suggestions to improve future advertising efforts are offered.

Can public awareness of problem gambling be heightened with an advertising campaign? In this study we sought to address this question, using data from a pre- to post- statewide study of 800 Indiana residents.

Just as gambling activities are known to increase with advertising, it appears important to evaluate whether helping problem gamblers might also be improved through advertising.

The State of Indiana first approved gambling (lottery) in 1989, followed by riverboat gambling in 1993 and horse racing in 1994. Similar to other states with government-sanctioned gambling, a “dramatic” increase in gambling activities occurred throughout the 1990s (Korn & Shaffer, 1999, p. 292). From a public health perspective, such a rise brings with it a concerning increase in the number of problem gamblers. Moreover, as gambling has become more available to the community at large, problem gambling has increased among vulnerable populations, such as youth and the elderly (Korn & Shaffer, 1999).

Substantial amounts of money are devoted to advertising by gambling operators. For example, the state lottery of Indiana spent

\$11.5 million in the year 2000 on promotional advertising (State of Indiana, 2001). In at least one recent study, half of a sample of pathological gamblers reported that such advertising triggered them to gamble (Grant & Kim, 2001).

In general, the literature on public health advertising campaigns in various addictions (smoking, alcohol, gambling) indicates that they too can be successful in their impact, although results have been mixed (e.g., Friend & Levy, 2002). Results have been found to vary on the basis of various factors, including amount of expenditure (Friend & Levy, 2002), salience of positive imagery (Shadel, Niaura, & Abrams, 2002), level of sensation seeking in the target population (Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2001), degree of awareness of the advertising (Sly, Hopkins, Trapido, & Ray, 2001), and ethnic and racial differences (Chen, Cruz, Schuster, Unger, & Johnson, 2002).

Method

Taxes from Indiana’s state-sponsored gambling were used to fund a public awareness advertising campaign that sought to inform state residents of problem gambling signs and available resources for help. This “Indiana Problem Gambling Awareness Campaign” targeted Indiana adults aged 18–54, at a cost of \$200,000. Messages were designed for various media, including radio (30- and 60-s spot announcements), billboards, brochures, newspaper advertisements, posters, and items such as pens and t-shirts. The campaign slogan was “Play smart. Don’t bet more than you can lose.” A public relations firm, Bingle Marketing Group, was hired to develop and implement the campaign. Media messages were targeted for geographic diversity throughout the state (9 areas for radio ads, 13 for billboards, and 15 for newspaper ads) and for repetition (e.g., a total of 1,471 radio ads). Billboards were placed on major highways, radio ads ran on 18 stations, and newspaper ads appeared in 18 newspapers. The goal was to target the population at large, to the extent possible.

The Governor’s Commission for a Drug-Free Indiana’s Committee on Problem Gambling and the Indiana Problem Gambling Task Force were

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also asked to disseminate messages within their regions and stakeholder groups (e.g., local community leaders, advocates for treatment of problem gamblers). The culminating event of the campaign was "Indiana Problem Gambling Awareness Week." It offered a press conference as well as presentations by nationally known speakers and Indiana professionals on problem and underage gambling at a variety of events. Topics related problem gambling to themes such as "community collaborations," "the family," "youth sports," "minority and cultural issues," "mental health counseling," and "older adults."

"Problem Gambling Town Hall Meetings" were held 2 weeks after the *Problem Gambling Awareness Week* in eight locations throughout the state to focus community leaders on problem gambling issues at a local level. These town meetings attracted local press coverage and offered an opportunity to help communities learn how to identify problem gamblers and encourage efforts to prevent problem gambling.

To evaluate the impact of these efforts, an *a priori* survey was developed. The 27-item telephone interview randomly sampled 400 Indiana adult residents prior to the campaign and an independent sample of an additional 400 residents after the campaign. Two research questions were targeted: (a) *impact* of the advertising campaign and (b) *awareness* of problem gambling issues in general. In addition, sociodemographic information and level of participants' gambling activities were obtained as part of the instrument. Note that the term *problem gambling* was used throughout the advertising campaign and survey rather than the term *pathological gambling* from the *Diagnostic and Statistical Manual of Mental Disorders* (4th

ed.); American Psychiatric Association, 1994). The former term is more widely known, is common English, and captures early-stage problems rather than just full diagnostic criteria, and thus it appeared more relevant to the public health effort of this project.

Data were collected at two points: (a) prior to the campaign (a sample of 400) and (b) after the campaign (a sample of 400, independent from the precampaign sample). Inclusion criteria were residency in Indiana and adult age (18–54 years). The total of 800 telephone interviews were conducted with computer-generated randomly selected samples of adults throughout Indiana by the public relations research firm hired to develop the campaign. (All data analyses and the writing of this article, however, were independently conducted by Lisa M. Najavits.) The postcampaign interviews were conducted 6 weeks after the precampaign interviews.

The interview was 7 min long and was constructed for the purpose of this study. It consisted of three sections, with a total of 27 items. One section obtained sociodemographic information. The second section assessed respondents' awareness of the Indiana Problem Gambling Awareness advertising campaign. For example, "Have you ever seen or heard of a toll-free 800 referral line in Indiana to assist people with gambling problems or their friends or family? (yes/no/don't know)." The third section focused on respondents' participation in and knowledge about gambling and gambling problems in general. For example, "Do you believe gambling, like alcohol, drugs, or tobacco, can become a problem for some people? (yes/no/don't know)." Scaling varied based on the item (see Table 1).

Table 1
Key Survey Items

Item	M or %	SD	n	Scaling
View of the ad campaign ^a				
Yes, saw or heard any advertising. ^b	8.2%		32 (of 392)	Yes–no
Yes, the ad increased my knowledge of problem gambling.	71.9%		23 (of 32)	Yes–no
Took action based on seeing/hearing the ad (e.g., called referral line).	0.8%		1 (of 371)	Yes–no
Liking of this ad campaign.	2.59	1.36	32	1–5 (Most to least)
Aware of the slogan "Play smart, Don't bet more than you can lose."	43.4%		170 (of 392)	Yes–no
Overall, favorable opinion of this ad campaign or one like it.	1.57	0.70	740	1–4 (Most to least)
Gambling in general				
Familiar with issue of problem gambling.	2.32	0.88	796	1–4 (Most to least)
No. gambling activities in which participated, past 12 months.	1.09	1.37	800	0–12 (Least to most)
Yes, believe that gambling can be addictive.	99%		786 (of 794)	Yes–no
Yes, know or heard of someone with a gambling problem.	56%		445 (of 794)	Yes–no
Yes, know any of the warning signs of problem gambling.	53%		412 (of 777)	Yes–no
No. warning signs for gambling problem identified.	4.16	0.91	800	0–5 (Least to most)
Awareness of state resources				
No. Indiana problem gambling resources identified. ^c	1.89	1.54	800	0–7 (Least to most)
Yes, heard of the toll-free referral line in Indiana for problem gambling.	47.3%		366 (of 774)	Yes–no
Yes, heard of resources in Indiana to help people with a gambling problem.	34.1%		268 (of 785)	Yes–no

^a These data reflect only the postcampaign sample of 400, except for the last question. ^b Exact wording: "In the past month, have you seen or heard any advertising, messages, or information about gambling problems that showed/featured a man talking about his gambling problem and the problem gambling referral line?" ^c This included seven resources, such as the toll-free referral line, Gamblers Anonymous meetings, and problem gambling educational materials.

The results below are reported after excluding from the data all "don't know" and "skipped" responses (unless otherwise indicated), thus accounting for some sample sizes totaling less than the full 800.

Data analysis comprised three steps. First, we evaluated whether there were significant differences in the samples, pre- versus postcampaign, on sociodemographic variables. This determined whether the sampling procedure was effective in producing comparable samples at the two time points, an important consideration in survey research. We used independent-samples *t* tests for all continuous variables and chi-squares for all categorical variables. Also, we computed descriptive statistics to describe the sample. Second, we evaluated whether there were significant differences in pre- versus postcampaign responses, to determine whether the advertising campaign had an impact on gambling knowledge and attitudes. For this analysis too, independent samples *t* tests were conducted for continuous items; categorical items were analyzed using chi-square tests. Note that all categorical items that could be legitimately converted to continuous scaling were converted, thus allowing a more sensitive analysis. For example, Item 1 of the questionnaire queried participants about whether they had participated in any of 12 types of gambling, all of which could receive a "yes" or "no" response; for each participant, an "across Item 1" variable was created, representing the total number of "yes" responses across all 12 questions to indicate an overall level of gambling participation. Distributions for all variables were evaluated for normality (kurtosis and skew). Because most of the variables were non-normal (specifically, a strong left skew indicating that the majority of respondents endorsed zero or low numbers), we conducted nonparametric tests as well as the *t* tests described above (specifically, the two-sample Kolmogorov-Smirnov test and the Mann-Whitney test). However, note that results were the same whether we used nonparametric or *t*-test analyses. Third, and finally, we used descriptive statistics to evaluate the impact of the ad campaign on those who saw the ad and to describe the full sample on issues such as level of awareness of gambling issues and amount of gambling. Throughout, tests were conducted at the .05 alpha level.

Results

Sociodemographic Description of the Sample

An evaluation of the pre- versus postcampaign samples showed no differences between the two groups on any of the seven sociodemographic variables (gender, marital status, children, age, race, education level, or income). Thus, the full sample is described here ($n = 800$). The mean age for the sample was 38.93 years ($SD = 9.69$); median income was \$30,000–\$50,000; median education level was some college or technical school; 51.3% were female; 68% were married; 54% had children; and the racial breakdown was 90.1% Caucasian, 5.1% African American, 4.8% other (Hispanic, Asian, or Native American, all < 2%).

Impact of the Ad Campaign

First, we evaluated changes from pre- to postcampaign on any questionnaire items. No significant differences were found. This indicates that the advertising campaign did not appear to have any demonstrable impact overall. Second, we evaluated just respondents who reported seeing the ad. Of the postcampaign sample, 8.2% reported seeing the ad (see Table 1); among this subgroup, most (72%) said the ad increased their knowledge of problem gambling. Yet only 1 person took action based on the ad, and liking of the ad was only in the moderate range. Oddly, many more of the postcampaign sample reported hearing or seeing the ad slogan ($n = 170$) than reported hearing or seeing the ad itself ($n =$

32). To better understand this, we also looked at the number of respondents in the precampaign sample who reported hearing or seeing the slogan, and here, too, we found a large number ($n = 182$). Given that the slogan was created solely for the ad campaign, and could not have been seen by anyone who did not see the ad, it could mean that respondents were responding to familiarity with such a message in general. Next, we found that the full sample reported a relatively positive view of this ad campaign or one like it. Finally (not in the table), of the postcampaign respondents who saw the ad, the most common venue was billboards (3%, $n = 12$), and the next most common venue was the newspaper (1.3%, $n = 5$).

Level of Awareness of Gambling Issues

We also sought to explore overall level of awareness of gambling issues (separate from the ad campaign). Analysis of this question was conducted on the full sample, as no differences had been found from pre- to postcampaign, as noted above. The level of awareness appeared to be mixed (see Table 1). For gambling problems in general, respondents seemed highly aware on many items: They knew that gambling can be addictive, and the majority knew someone with such a problem. When asked to respond to a list of warning signs, they had a high rate of correct responses.

However, awareness of Indiana state resources for gambling was low to moderate overall. (These predated the advertising campaign, and thus could be asked of all respondents). Only a minority had heard of any of the state resources such as the toll-free referral line, for example.

Finally, the respondents reported a very low rate of their own gambling in the past 12 months (indeed, the modal response for this item was zero, which occurred for 45.1% of the sample, $n = 361$). Of those who had gambled in the prior 12 months, the most common form of gambling was the lottery (41.3%, $n = 330$).

Discussion

Advertising is a commonly used strategy designed to increase rates of gambling, by casinos, state lotteries, and other gambling operators. However, at least in this study, a major public health advertising campaign that sought to raise awareness of problem gambling had limited impact. Overall, no changes were observed from pre- to postcampaign on any survey items, and most respondents did not see or hear the ad. Of the few who did, however, many reported that it increased their knowledge of problem gambling. This might suggest that advertising does hold promise in educating the public about problem gambling but that more effective means of reaching people are needed. Slogans may be especially effective, as, at least in this sample, many resonated to the campaign slogan (indeed, far beyond those who could have actually been exposed to it through the ad campaign). Billboards also appeared to be an important medium.

Our study had various features that would appear to provide a rigorous test: It was designed a priori, it surveyed large random samples of 400 respondents at both pre- and postcampaign testing, it was conducted by an independent firm, and it evaluated a multipronged campaign that including a variety of media messages and formats.

The results indicate that respondents did know some important information about problem gambling, despite the lack of impact of the ad campaign itself. They were highly aware of signs of problem gambling, and they understood that gambling can be addictive. Most knew of someone with a gambling problem. Awareness of resources to aid problem gamblers in Indiana was lower, suggesting thus again the need for more effective dissemination of information.

The study was limited in several ways that may have influenced its results. Because of the survey nature of the design, respondents' actual behaviors are not known, and only respondents willing to answer the survey provided data. Moreover, the ad campaign itself was a one-time effort rather than the sustained advertising over time that is used by the industry to recruit gamblers. The assessment measure was created solely for this project, and thus its psychometric characteristics (e.g., sensitivity) are not known. The sample size may have been insufficiently large to detect results. Finally, the sample may likely have been exposed to prior education about problem gambling through general media, such as magazine articles or television shows, before this study was conducted.

Future advertising campaigns may benefit from a more focused approach (e.g., targeting individuals at risk for gambling problems rather than the population at large), as well as adding other, perhaps more powerful, media (e.g., television). In general, the amount spent on the campaign (\$200,000) was vastly less than amounts spent by gambling operators to promote gambling during the same year (e.g., \$11.5 million for the Indiana state lottery alone). Although our data may not have evidenced widespread increases in awareness of problem gambling, the need for future advertising campaigns, and research to evaluate their impact, remains strong.

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