Nudge versus sludge in gambling warning labels: How the effectiveness of a consumer protection measure can be undermined

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abstract

Legal gambling is a large industry in many countries. One way some governments try to protect people from losing more than they can afford is by requiring warning labels on gambling machines and their online equivalents. Prominent labels that make the odds of winning clear serve as *nudges*: They promote a beneficial behavior (such as deciding that the risk of losing money is too high) without interfering with choice (such as by restricting the availability of gambling). However, if gambling operators use labels that are difficult to understand, find, or read, those messages instead hamper decision-making and thus become *sludge*. In this article, we report on new research into whether gambling labels in the world's largest regulated online gambling market (the United Kingdom) are more consistent with nudge or sludge. We found that gambling operators overwhelmingly used sludge strategies when posting required gambling warning labels: For instance, they framed the message using a confusing format, applied a small font size to the text, and placed the warning on obscure help screens. We therefore propose that public policy officials throughout the world establish requirements for the wording and presentation of gambling warning labels to ensure that gamblers are well-informed about the odds they face.

L egal gambling is a large industry in many countries, often in the form of both electronic gambling machines and online gambling.[1] Not surprisingly, many people end up losing more money than they can afford, even when they do not fully meet the criteria for a diagnosis of disordered gambling.[2,3] In one approach to combating the problem, some governments require gambling operators to post warning labels about the dangers of gambling. In this article, we describe research into the effects of two contrasting approaches to implementing warning labels—which we characterize as delivering a *nudge* or *sludge*—and we report new research into the prevalence of these labeling approaches in the world's largest regulated online gambling market, the United Kingdom. We also offer recommendations for policymakers who want to reduce gambling's negative effects on players.

Nudge Versus Sludge

The United Kingdom's Gambling Commission, which is responsible for regulating the United Kingdom's online gambling market,[4] requires that warning information be posted for games such as online roulette and slots.[5] The *cost of play*, which is the average loss from each gamble given the probability of each outcome and its resulting payoff, is communicated to gamblers via a warning label[6] that is somewhat akin to the nutrition labels that inform consumers about the contents of their food.[7] Customized labels go on each game, because the odds differ between games. The probabilities can be calculated precisely for electronic gambling machine games and their online equivalents. The goal of such information is not necessarily to discourage all gambling but to encourage gamblers to understand the risks they are taking when they choose to gamble. Effective warning labels can complement other interventions aimed at reducing the harm caused by gambling.[8–12]

In behavioral science terms, these warning labels are meant to be *nudges*: interventions that gently prod people to make a decision that is beneficial to them without changing their financial incentives or the freedom to choose.[13]

Core Findings

What is the issue?
Although many governments have enacted policies to make the risks of gambling better known to players, these policies are often subverted by operators. This problem is particularly acute in the case of mandatory labeling designed to convey risks and nudge players away from riskier behaviors. Instead of *nudges*, subverted labels can become *sludge*, resulting in impaired decision-making.

How can you act?
Selected recommendations include:
1) Ensuring that players are provided with the most useful cost-of-play information possible
2) Clearly and unambiguously spelling out the optimal placement of gambling information, as is done for tobacco

Who should take the lead?
Policymakers, legislators, and leaders in entertainment and recreation

"'sludgey' labels undercut a player's ability to choose wisely"

Policymakers offer consumers information that is relevant to their decision to gamble rather than, say, imposing a rule that restricts how much money they can bet.[14]

In reality, though, the labels on online casino games may instead take the form of *sludge*, a term coined by behavioral economist Richard Thaler. Contrary to the intended aims of the government's warning label mandate, "sludgey" labels undercut a player's ability to choose wisely. Sludge has received a lot of attention from researchers recently.[15–18] Most examples come from situations in which consumers are disincentivized from making wise choices by having to fill out unnecessary forms or deal with other sorts of friction.[15,18] For instance, few people actually obtain manufacturers' rebates because of the trouble involved in requesting them.[16] As Thaler has pointed out, however, sludge can also have a broader influence, by encouraging "self-defeating behavior such as investing in a deal that is too good to be true."[16] In this article, we use the definition of sludge in its broad sense.

In the United Kingdom (and elsewhere), two contrasting ways that gambling warning labels can frame cost-of-play figures are *return-to-player* and *house-edge* approaches. The return-to-player format frames the cost of play in terms of the average amount of staked money that is returned as winnings. For example, a U.K. gambler might be told, "This game has an average percentage payout of 90%," meaning that for every £100 bet, an average of £90 is paid out in prizes and £10 stays with the house. In contrast, the house-edge approach frames the same information in terms of the average amount of money retained by the gambling operator, as in "This game keeps 10% of all

money bet on average." For electronic gambling machine games and their online equivalents, the probabilities can be calculated precisely.

In the next two sections of this article, we cite research by us and others suggesting that the house-edge wording is a nudge whereas the return-to-player label is sludge, and we report on a study we have conducted to examine the prevalence of these two approaches and the visibility of warning labels on U.K. online gambling sites.

Nudges & Sludge in Gambling Warning Labels

Prior research had suggested that framing a gambling warning label in terms of the percentage of money typically kept by the gambling operator (that is, as a house-edge nudge) rather than in terms of the percentage of money returned to players (that is, as a return-to-player sludge message) would result in more gamblers correctly interpreting their odds of winning. In one study, for instance, 25 people who used an electronic gambling machine were presented with a return-to-player message indicating that the average payout was 90% of the money staked. Only six of the 25 selected the correct interpretation in a four-alternative multiple-choice question about the message's meaning[19]—which was that for every £100 bet on the game, about £90 is paid out as prizes. The other participants selected interpretations saying that betting £1 on the game would guarantee a win of 90p, that 90% of people who played would win something, or that the game would give out a prize nine times out of 10.

On the basis of behavioral science research into the importance of framing to the interpretation of messages,[20–22] we thought that the gambling warning information could be provided in a more understandable way,[23] namely, by speaking in terms of how much money the house keeps—that is, by using house-edge framing. We therefore conducted an experiment comparing the two messaging approaches. In a study with almost 400 participants, 66.5% of gamblers who read a house-edge statement (which explicitly said that the operator keeps an

"regulations do not provide a definition for what 'easily available' means"

average of 10% of the money it takes in) selected the correct interpretation of this information in a multiple-choice question, compared with 45.6% of gamblers who were given the equivalent return-to-player statement indicating that an average of 90% of bet money is returned to players.[23] The largest difference was that 32.8% of gamblers given the return-to-player statement incorrectly selected the option of "This game will give out a prize 9 times in 10," whereas just 10.3% of gamblers given the house-edge statement chose that interpretation. In another study involving 407 gamblers, participants perceived a lower chance of winning when they were provided with house-edge information than when they received equivalent return-to-player information.[23]

These divergent interpretations have a significant influence on betting behavior, according to a recent experiment involving more than 2,400 experienced American gamblers.[24] Participants were given small amounts of money to keep or gamble with (in the hope of making more); those who chose to gamble played an online slot machine. Those given house-edge warnings were less likely to initiate and continue betting than were participants who read return-to-player labels.

In that study, the warning labels were prominently displayed on the slot machine screens. In the United Kingdom, regulations state that warning information "must be easily available."[11] This phrasing could be interpreted to mean that warning information should be as prominent as a front-of-pack nutrition label.[7] But because the regulations do not provide a definition for what "easily available" means, gambling operators could conceivably use the ambiguity to avoid displaying the warning so prominently. For this reason, in a new experiment, we examined the visibility of warning labels along with the prevalence of the two cost-of-play formats.

Real-Life Warning Labels

Our study included 363 online roulette games hosted by 26 major gambling operators (see the Supplemental Material for fuller details of our method). The U.K. online gambling sector is vast and growing, so we made an effort to compare one standard product across multiple gambling operators. We chose roulette because it is highly popular in U.K. online gambling[25] and because roulette is a standard casino game that is not likely to vary substantively across operators.

A return-to-player statement appeared on 357 of 363 roulette games (98.3%). Not a single house-edge statement appeared. (See note A for information on the labels of the remaining games.) In addition, the labels were difficult to find. To see the return-to-player statements, gamblers had to click an average of 1.28 times (*SD* = 0.58) to navigate away from the main roulette game window. (See note B for more on the statistical terms used in this article.) The screens with the return-to-player statements contained large amounts of text. A later analysis of a random sample of 10 roulette games revealed an average of 2,078 words on the screen (minimum = 875 words, maximum = 3,450 words). Overall, 38.1% of return-to-player statements were found in the first third of the text, 46.8% were found in the middle, and 15.1% were found in the last third of the text. Relative to other text on the screen, 95.5% of return-to-player statements used the smallest font size, and 99.7% (all games but one) used the lowest level of text boldness. Additionally, 16.8% of return-to-player statements used only an acronym to describe the return-to-player information—such as, "RTP is 97.2973%." Thus, gambling operators overwhelming used sludge rather than a nudge for their required warning label.

These results suggest that the warning labels in current use by gambling operators are less effective than they could be.[26] Operators consistently presented low-prominence return-to-player warning labels, even though information that was either more prominent or that used the house-edge framing would likely have been more helpful to consumers. Operators could

have many reasons to choose one format and a specific visibility over another; for instance, perhaps other actors, such as software providers or consultants, made the decision. Regardless of who made the decisions, though, it appears that in the real world of online gambling, what was intended by U.K. regulators to be a nudge has instead turned into sludge.

These findings are relevant to policymakers who set the United Kingdom's gambling regulations. However, the study has some limitations. Although we surveyed 26 large operators, the roulette games used in the study may have come from the same small pool of industry consultants or software providers. A wider investigation of more games or U.K. operators could be one way to improve on this study, although it could still end up drawing from the same small pool and thus might not meaningfully increase the sample size. Perhaps a better approach would be to investigate a different market. Some research of this sort has been done. For example, a high number of virtual video games across the world now contain gambling-like elements called *loot boxes*,[27] which provide randomized rewards, usually for a price. Their use has been linked to problem gambling.[28] The Chinese government announced that video game companies would have to publicize loot box odds of winning but gave companies discretion over whether to disclose them in the game or only on their websites.[29] A study of Chinese loot box warning labels loot found that, as with the U.K. online roulette games, most Chinese online video games offering loot boxes provided suboptimal disclosures by displaying this information in hard-to-reach places.[30]

Policy Recommendations

We know of no previous research examining how gambling operators interpret the regulatory requirement to provide easily available warning labels, and we find it worrisome that so many operators do not make the labels prominent and do not use house-edge framing. We believe that to help reduce the negative consequences of gambling, regulators in the United Kingdom and elsewhere should ensure that players are

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sludge

Information designed to undercut a person's ability to choose wisely

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return-to-player label

Framing the cost of play in terms of the average amount of staked money that is returned as winnings

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house-edge label

Framing the cost of play in terms of the average amount of money retained by the gambling operator

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provided with the most useful cost-of-play information possible so that they can make informed choices when deciding to gamble.

Although prominent house-edge information appears to be more effective than the current return-to-player information given to gamblers, other formats might also turn out to be useful. For instance, a recent study found that a volatility warning, which says that the cost-of-play odds being presented hold true only in the long run, produced beneficial changes in gambling behavior.[24] Thus, a label optimized according to the current state of knowledge might read, "This game keeps 10% of all money bet. It takes millions of plays for a gambling game to tend toward its average return. A gambling game will not return a minimum value of prizes in any given period of gambling."

Of course, a label serves no purpose if a player cannot see it. Regulators should clearly and unambiguously spell out the optimal placement of gambling information, as is done for tobacco.[31] Although cigarette warning labels have changed over the years, regulations in various countries have always insisted on precise and visible positioning of the warning label on the front, sides, or back of the packs. The United Kingdom's loose regulatory guidance on gambling warning label placement has meant that gambling operators often display the required warning labels where gamblers are unlikely to notice or pay attention to them. Lack of clarity on where labels should be positioned is another way that the regulations can encourage self-defeating behavior—that is, they become sludge.

In this article, we have focused on education as a regulatory goal, as is the case with nutrition labeling.[7] Some regulators, however, may be sufficiently convinced by the evidence on gambling harm[9,10] to consider strategies beyond straightforward education. With tobacco, behavior change was effected in part by replacing text-based warnings with graphic

"house-edge information appears to be more effective than the current return-to-player information"

warnings that evoke fear.[32] Enhancing gambling warning labels with similar fear-based appeals[33] could prove to be even more effective at changing gambling behavior than the warning labels we have discussed, and they are worth considering.[34]

endnotes

A. The remaining six games included information that did not deliver return-to-player or house-edge information. Instead, these messages conformed to at least one of the two other allowed categories, which are either "a description of the way the game works and the way in which winners are determined and prizes allocated" or "the probability (likelihood) of winning events occurring."[11]

B. Standard deviation is a measure of the amount of variation in a set of values. Approximately two thirds of the observations in a normally distributed data set fall between one standard deviation below the mean and one standard deviation above the mean.

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supplemental material

- https://behavioralpolicy.org/publications/

- Method & Analysis

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