Using Fear Appeals in Warning-labels to Promote Responsible Gambling among VLT players.

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ABSTRACT

Video lottery terminals (VLT) and slot machines are a highly lucrative gambling format, but at the same time are among the most hazardous ones. Pathological gambling is defined as "a persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits" (DSM-IV-R, 1994). These negative effects of gambling can be preventable using dissuasive messages to promote responsible gambling behavior.

Warning-labels have been extensively used as a tool to inform and persuade people about the potential hazards derived from the use of some dangerous products (Argo & Main, 2004). Nevertheless, little research has been devoted to explore its use and potential benefits on gambling behavior. Presently, there are no warning-labels against pathological gambling, but some discussion to adopt such a preventive measure has been recently initiated in order to increase the awareness toward the risks of gambling addiction (D. A. Korn & Shaffer, 1999; Netemeyer et al., 1998). Given that fear appeals seem to be an appropriate mechanism to promote protective behaviors, our interest is to discuss if the use of warning-labels on VLT may be an effective strategy to fight compulsive gambling.

Our paper will propose a theoretical model, based on Elaboration Likelihood Model (Petty & Cacioppo, 1986) and Protection Motivation Theory (PMT) (Rogers, 1975) to explore the potential effects of using fear appeals on warning-labels to affect attitude change, protective behavior and compliance intentions. Other variables will also be discussed such as the depth of information processing, involvement and control perception and their potential moderation or mediation effects.

Keywords: warning-label, fear-appeals, pathological gambling, information processing, attitude change.

INTRODUCTION

Individuals mostly regard gambling behaviour as innocuous pastime, and states regard it mostly as a great source of additional revenue without increasing taxation (Azmier, 2000). Despite those considerations, there is also a growing interest dealing with gambling consequences on individuals' health, specifically related to pathological gambling (Azmier, 2005). Although efforts to advice gamblers have already been done, people do not yet consider gambling to be a social concern as serious as some other health issues like cigarettes and alcohol abuse (Azmier, 2000), indicating that more efforts are needed to reach better awareness of this issue.

A review of researches on health issues clearly shows that warning-labels have been extensively used as a tool to inform and persuade people about the potential hazards derived from the use of some dangerous products (Argo & Main, 2004). For the anti-smoking campaigns, researchers have revealed that warnings with fear appeals and strong images are working quit well (Hammond et al., 2007), but little research has been devoted to explore their use and potential benefits on the gambling behavior field. We propose then to explore the cognitive appraisal and emotional responses when fear is manipulated on warning labels to call for responsible gambling behavior among video lottery terminal (VLT) gamblers. We also consider another critical issue to persuasion in threat-inducing communication that is the credibility of the source. Typically, warning-labels emanate from government agencies. While in Quebec, the current source of the preventive messages toward pathological gambling is '*Mise sur Toi' (Bet on yourself)*, a foundation created by the lottery provider (Loto-Quebec). As far as we know, there are no published studies dealing precisely with the evaluation of the effectiveness of such a source.

Thus, the purpose of this paper is to explore theoretically the potential effects of using fear appeals in order to affects attitude and compliance intentions mediated by information processing on VLT gamblers. More specifically, our interest is to answer these research questions: Do fear appeals work in warning-labels to promote responsible gambling?, if so which one of the threat levels will be more effective to promote attitude change and compliance intentions among VLT players? And what can be the impact of the source of the message on its credibility?

We begin by presenting an overview of pathological gambling behavior followed by a short outline related to preventive efforts. Next, we offer a theoretical framework to link emotional responses, information processing, attitude change and compliance intentions built on well established theories such as Elaboration Likelihood Model (Petty & Cacioppo, 1986) and Protection Motivation Theory (PMT) (Rogers, 1975).

OVERVIEW OF PATHOLOGICAL GAMBLING BEHAVIOR

While gambling is widely regarded as a harmless form of recreational activity, the psychiatric point of view is quite different because it posits that a new disorder, called pathological gambling, has emerged. This impulse disorder classified since 1980 (DSM-IV-R) (American Psychiatric Association, 1994) is defined as "a persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits". Among the characteristics and consequences of pathological gambling are: the obsession with the thought of gambling, a loss of control over gambling, the chasing of losses, lies, deception family, job disruption and illegal acts (DSM-IV-R, 1994).

There is evidence that VLT and slot machines are the most hazardous gamble format (Griffiths, 1990; Muñoz, 2007 under review). For instance, VLT was pointed out as "the predominant type of gambling in pathological gamblers seeking treatment" (Morgan, Kofoed, Buchkoski, & Carr, 1996, p. 458). Furthermore, Breen & Zimmerman (2002) did the first study to show that the latency of pathological gambling was shorter among machine gamblers than among other types of game. Finally, there is evidence that data provided by hotline services showed that callers mentioned mostly VLT as the type of game they used to play (Papineau & Chevalier, 2003). One reason for this could be that this format is a kind of game in which the time elapsed between wager and result is very short.

In terms of demographic variables, pathological gambling affects men more often than it does women (Muñoz, 2007; Suissa, 2005). There is also evidence that much underage youth, regarding gaming activities as a popular form of recreation, are succumbing to the temptation and pressures to engage in regulated and unregulated forms of gambling (Jacobs, 2000). At least, 80% of adolescents have engaged in some form of gambling during their life-time, and most alarming is the evidence that between 10-15% of them are at risk of becoming pathological gamblers while 4 and 10% have already been touched by serious gambling problems (Derevensky & Gupta, 2000; Winters, Bengston, Door, & Stinchfield, 1998).

PREVENTION EFFORTS

Although prevention is in line with the growing health public interest in Canada about issues associated with addictive gamblers (Korn, Gibbins, & Azmier, 2003), little academy research has been done on it at least in Canada. Some researchers have worked on techniques to prevent pathological gambling among college students and the proposed intervention integrates alcohol prevention strategies with elements of gambling treatment. This kind of intervention is based on cognitive-behavioral skills-training and motivational interviewing and includes personalized normative feedback, cognitive correction, discussion of gambling consequences, and relapse prevention techniques (Takushi et al., 2004). These researches provide valuable information on gambling prevention, but they are cautious about the benefits participants receive from the intervention. They call for more research in this field.

We are aware that there are no warning-labels on the VLT and slot machines against pathological gambling yet, but some discussion to adopt such preventive measures has been recently established (Netemeyer et al, 1998) and many researchers have called to provide more information in order to increase awareness of the risks of gambling involvement, specifically among young people and children (Netemeyer et al., 1998; Volberg, 1994). In this sense, this research is interested in providing strong arguments to discuss if the use of warnings may be an effective strategy to adopt specifically among VLT players.

THE ELABORATION LIKELIHOOD MODEL (ELM)

The ELM is a general theory of attitude change, which proposes that there are two routes to persuasion. The first one is called central route meaning that individuals carefully scrutinize the true merits of the information received. The second one, called peripheral route, means that some simple cues of the message such as music, source, image, character size, etc., are taken into account to induce changes without following the central arguments of the message (Petty & Cacioppo, 1986).

According to the model, the central route will only be taken when an individual possesses adequate levels of both motivation and ability in the sense of cognitive capacity (Mick, 1992; Petty & Cacioppo, 1986). The cognitive capacity requirement reflects the fact that people have a limited ability to process information. Among the reasons affecting cognitive ability are limited time, the presence of simultaneous tasks (e.g. Ratneshwar & Chaiken, 1991) and probably a limited knowledge in a given topic or area (Wood, Rhodes, & Biek, 1995). Motivation requirement is also central to process information, and in this sense, the notion of involvement is capital when people follow the central route (Chebat, Charlebois, & Gélinas-Chebat, 2001). Of course messages can be of high or low personal relevance depending on the individual, for example, warnings appealing to health concerns in the distant future (i.e. hearth diseases) (Nilsson, 1999) seem not to be appropriate to young adults who tend to live the present.

Using cognitive responses in diagnosing the persuasive effectiveness of the warning label types, Andrews, Netemeyer & Durvasula (1993) found that support and counterarguments represented the greatest percentage (i.e. 61.2%) of all thoughts generated by the participants in the study. Furthermore, it has been found that net support arguments mediate the relationships between attitudes toward drinking and attitudes toward the warning-label. According to the authors, this finding implies that respondents' self-generated thoughts about the warnings play a greater role in explaining their post-warning attitudes. This finding appears to be strongly related to subjective information processing, which is a concept postulated by Mick (1992). In essence, Mick proposes that when the receiver goes beyond the message by producing his own thoughts is because information processing meets subjective criteria.

A second study where cognitive processing of the warning-labels is taken into account by Hammond, Fong, MacDonald, Brown & Cameron (2004) found that reading and thinking about the warnings was positively associated with intentions to quit smoking. This study is based on the premise that cognitive processing, or the extent to which information is processed or elaborated upon, is the most important determinant of memory and attitude change in response to new information (Anderson, 1990).

Using personal references and evoking realistic situations in a message can enhance its importance for receivers. For instance, Gorn, Lavack, Pollack & Weinberg (1996) found that warning-labels were rated more effective when they contained personal reference to 'you' or 'your' and when the consequences of drinking and driving (tested in this study) were realistic, relevant and evoked anxiety.

On the other hand, when involvement is low, people take into account other messages' cues such as source, music, number of arguments, character size, images, etc. For instance, a strong image has more persuasive effects to counterbalance the effects of smoking scenes in movies among teenagers (Golmier, Chebat, & Gélinas-Chebat, 2007). Given that those cues are relatively restricted in warnings, we will just consider for our study the source credibility to observe its effects on information processing. Source credibility may fit when the ability and motivation to information processing are low or even lacking.

SOURCE CREDIBILITY

One important aspect to persuade people is whether both the information and the source are credible. Source credibility falls into one of the three paradigms of attribution theory pointed out by Hansen & Scott (1976). This theory explains how an individual ascribes or attributes property X to a person. In this sense, source credibility implies three components: expertise, trustworthiness and attractiveness (Sternthal, Phillips, & Dholakia, 1978). Expertise refers to the extend to which a speaker is perceived to be capable of making correct assertions, while trustworthiness refers to the degree to which an audience perceives the assertions made by a communicator to be ones that the speaker consider valid.

For example, Frewer, Howard, Hedderley & Shepherd (1997) showed that for excessive alcohol use, perceived risk was lower when the information was attributed to government agencies. In the case of public welfare, a concern of the warnings, trustworthiness of the source is a key aspect of its believability. For instance, compared to government, medical sources seemed to have greater concern with public welfare, greater responsibility in providing information, and a better track record of information provision (Frewer et al., 1997: 763). In the same line, these researchers pointed out that medical source was rated as being more expert and knowledgeable about the risk, and having greater freedom to present that kind of information to the public.

As it can be seen, trustworthiness can be a feeling going beyond perceived expertise, for example, if someone expert is arguing something based on intrinsic self-interest (a garage owner when we bring our car) can be less trustworthy than someone expert arguing something without self-interest in presence (Wiener & Mowen, 1986). The same reasoning can be applied to the case of *Fondation Mise sur Toi*, which is linked to the game provider in Quebec which is itself owned by the government of Quebec. It should be very interesting to see what kind of trustworthiness this foundation can have considering its dual belonging.

FEAR APPEALS AND INFORMATION PROCESSING

In order to increase motivation to information processing, ELM suggests that fear appeals can help on it. That is the reason we move toward theories dealing precisely with fear appeals. In the literature dealing whit this topic, researches have pointed out mixed results.

Curvilinear model of fear appeals: Fifty years ago, it was suggested that varying levels of threat had both facilitating and inhibiting effects on persuasion. This model suggests that a weak threat will not attract adequate attention while a strong threat would be avoided. As a conclusion, the moderate threat was revealed as the more effective to create anxiety (Janis, 1967). Very few empirical studies have proven

this logic. Among them, Hill (1988) showed that moderate threat message was more effective to persuade young people about AIDS threat.

The linear Model: Sutton (1982) found that the relationship between threat and persuasion remains positive. Researchers in many fields have extensively confirmed this theory: For instance, Benneth's (1996) study where the influence of varying levels of "horrific" threat was found to be positive, and LaTour & Rotfeld (1997) confirmed it too in their study. An extensive meta-analysis reviewed 98 studies on fear appeals confirmed mostly the linear relationship (Witte & Allen, 2000).

In the case of gambling behavior studies, there is no research regarding the effects of fear appeals on persuasion and attitude change yet. Our point is that given that fear appeals work well in many other fields, it could be possible that using them to promote responsible gambling would have positive effects among fun and problematic players. Those results could not be reached among pathological gamblers given that they are already taken by this disorder.

PROTECTION MOTIVATION THEORY

This theory, proposed by Rogers in 1975, follows the idea that fear is positively related to persuasion. In fact, this theory suggests that a strong threat will be more persuasive than a weak threat. One of the most important contributions of this theory was to identify how fear appeals work. For that reason, it includes the importance of cognitive mediation processes in persuasion. According to PMT, four cognitive appraisal processes mediate the information processing of threat messages. Cognitive appraisal refers to perceived threat, which includes two initial processes called perceived severity and perceived susceptibility, that is, the probability that the threat will occur (Tanner, Hunt, & Eppright, 1991). Cognitive appraisal is completed by a second appraisal called coping behavior, which includes the response efficacy to avoid the negative results of such behavior. This last point was improved later by adding self-efficacy (Bandura, 1997), meaning that people feel whether they are capable to do what they need to avoid negative results of a given behavior (Tanner et al., 1991). Both cognitive appraisal and response efficacy arouse protection motivation mediated by attitude change.

Although PMT deals with fear appeals, many studies in the past had only included cognitive appraisal and neglected, if we can say, the emotional response to the message. In fact, the method used currently to measure protection motivation is just taking into account cognitive appraisal of fear appeals. To improve it, Tanner et al., (1991), proposed to include emotional processes as an important step to coping appraisal linked indirectly to behavioural intentions.

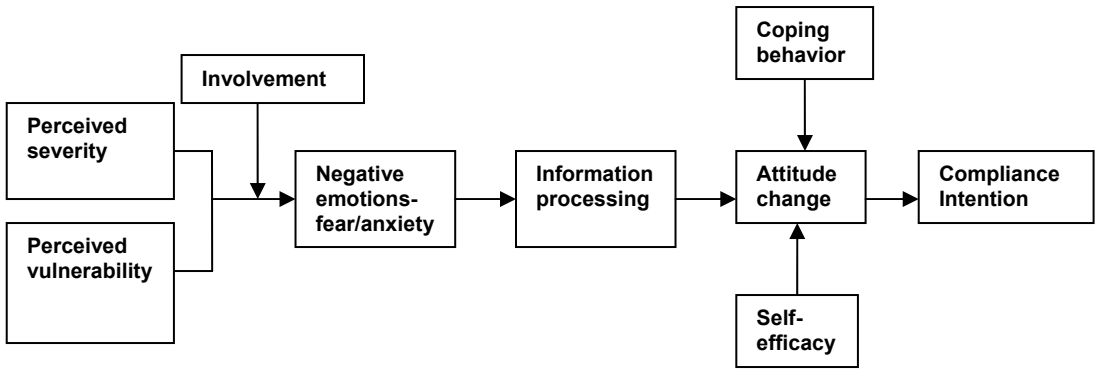
By including emotional response, our reasoning follows Lazarus' point of view. For example, when an individual finds a dog on the street, he realizes that there is a potential danger, the dog may attack if he continues for the same side or if he goes back and run. This cognitive appraisal is accompanied by strong emotions like fear and anxiety. This kind of emotions may affect information processing and the way to cope with it. That is, emotions may lead to coping appraisal by the mediation of information processing. In the same line, gamblers may receive a threatening message. This threatening message may include

negative results in the long run like financial disrupts or affective disrupts instead of focusing on the illusion of control as proposed by Miyazaky, Brumbaugh & Sprott (2001).

This assertion is in line with studies that have found that when gamblers went to seek help the first reason they gave is financial ruin problems and the second one is affective disrupts (Evans & Delfabbro, 2005; Hodgins, Makarchuk, El-Guebaly, & Peden, 2002). We think therefore that taking into account those dimensions to create effective threat messages may help gamblers to control or stop gambling behaviour if they feel vulnerability toward it.

Conceptual framework and research propositions

Figure 1: Proposed model



RESEARCH PROPOSITIONS

Following the previous literature review, we propose a set of research propositions dealing with fear arousing messages against pathological gambling among VLT players.

First, we consider that involvement plays an important role in information processing. This research proposition is linked directly with ELM, therefore:

Proposition 1a: when fear-arousing messages are addressed, high involvement subjects will produce deeper message oriented thoughts than low involvement subjects.

Considering that involvement may match as a moderator variable, we propose the following research propositions:

Proposition 1b: high involved individuals will get strong emotions and deeper information processing independently of the threat degree.

Proposition 1c: low involved Individuals will get strong emotions and deeper information processing only when the threat is high.

Our second research proposition takes into account the effects of the source on information processing. In Québec, the source promoting responsible gambling to gamblers is linked directly to the game's provider (Loto Québec), therefore:

Proposition 2: in fear-arousing messages about VLT gambling behaviour, sources jugged having more expertise on medical care will produce deeper information processing than sources associated with the game's provider.

We then follow the idea that the relationship between fear appeal and its effects is linear, meaning that high threat will be more effective than low threat, therefore:

Proposition 3: Information processing will be deeper among subjects exposed to higher threat levels (they will produce greater message oriented thoughts), therefore, attitude change will be as expected.

More specifically, when individuals feel that perceived severity and perceived vulnerability are high, their reaction to fear appeals is strong, therefore:

Proposition 4: When the severity of the threat and the probability that it will occur are high, strong fear appeals will produce strong negative emotions, which in turn will produce deeper information processing and attitude change.

Following the PMT, it was indicated that response efficacy and self efficacy may slow down the effects of perceived severity, therefore, when individuals receive a threatening message:

Proposition 5: High response efficacy and high self-efficacy are strong predictors of attitude change.

DISCUSSION

This paper focuses on fear appeals using protection motivation theory and ELM. This theoretical perspective is the first one, as far as we know, to join together those well established models of persuasion and health behavior. It is also the first attempt to analyze gambling behavior by using protection motivation theory.

Gambling behavior is a widespread activity across societies, and is currently regarded as a normal behavior for fun, but there is also a great concern related to its negative effects among many players who loose control over their gambling behavior. This field has the potential to allow us to enhance our knowledge about ways we can use to bring awareness among players and to help public health managers to deal with such a disorder as well as to help gamblers to avoid their fall down.

As we previously explained, fear appeals seem to be appropriate for promoting many healthy behaviors. So, following this reasoning, we think that using them on warnings to promote responsible gambling can

help preventing negative results. The interesting challenge here is to find the right threat level that can have the most accurate affect, as well as finding out how fear levels work on different categories of people and how it affects emotions.

There is also a great interest in knowing the effect of the source of the messages on information processing and persuasion. A source related to the lottery provider is of a great interest as the public may regard this source as either trustworthy as they are promoting actions that may be against their interest (Gambling less), but can also be seen as hypocritical in the way that it is only doing so to avoid law suits or to accommodate some public policies forced on them.

As we are presently working on messages to be tested and on different degrees of threat to use in the experiment design, we have great hopes to come up with some positive and interesting results from our model.

FUTURE RESEACH AVENUES

Using strong images on warnings toward smoking behavior have had positive effects (Hammond et al., 2007). We suggest that including an image may improve the strategy to promote responsible gambling among VLT players. As far as we know, there is no research dealing precisely to use an image on it, but following the example of tobacco warnings, we expect that image-chock may work well on gambling behavior. Cultural studies are also required to observe how people react to fear appeals when they pertain to foreign cultures. Subjective norms can also lead to responsible gambling behavior. In this sense, if public health managers try to minimize the point of view of "normal behavior of fun" when people think in gambling, therefore it could work efficaciously on de-normalizing of game.

Recently, in Québec, government has decided to forgive totally tobacco smoking in bars and restaurants. This measure may affect other addictive behaviors such as alcohol consumption and gambling behavior. It could be interesting to observe the effect on VLT players when they cannot smoke in bars.

CONCLUSION

Our paper is the first to include protection motivation theory and ELM as a framework to think what could happen when messages to promote responsible gambling are addressed toward VLT gamblers. Many contributions can be expected of this audacious work. First, understanding the effects of fear appeals on messages to promote responsible gambling, could help to improve social public campaigns. Second, research on warnings toward pathological gambling is scarce; our effort could help to close this gap and to open new avenues to develop this kind of research. Third, there is a debate between two theories on fear appeals. That is, curvilinear model or linear model, we attempt to observe which one of them may get higher effectiveness on gambling behavior area.

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