

**THE BEST DEFENSE CAN BE A GOOD OFFENSE :
A NEW WAY TO PROMOTE RESPONSIBLE GAMBLING
BEHAVIOUR AMONG YOUTH**

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THE BEST DEFENSE CAN BE A GOOD OFFENSE: A NEW WAY TO PROMOTE RESPONSIBLE GAMBLING BEHAVIOUR AMONG YOUTH

Abstract

The harmful effect of gambling advertising on youth is now well established. Using the framework of the inoculation theory, we propose that, in order to develop a responsible attitude and behaviour toward gambling among youth, it may be more effective to induce youth to resist to gambling ads persuasive appeals instead of persuading them of the danger related to an excessive gambling behaviour.

Our paper presents a theoretical model. It compares the effectiveness of both strategies when they have to compete with a gambling advertisement. Other variables are discussed, highlighting conditions under which a message-induced resistance may be more efficient than an awareness-message on gambling related risks.

Keywords: prevention, youth, pathological-gambling, resistance to persuasion, inoculation theory

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Résumé :

L'effet néfaste, sur les jeunes populations, des publicités promouvant les jeux de hasard et d'argent a fait l'objet de nombreuses recherches. Le lien existant entre l'exposition à ces publicités et le développement de comportements à risque chez les jeunes est aujourd'hui bien établi.

Au sein de ce papier nous nous basons sur le cadre conceptuel de la théorie de l'inoculation afin de développer un nouveau type de message préventif. Au lieu de tenter de persuader les jeunes adolescents des risques liés à un comportement excessif de jeu, nous proposons de les inciter à résister aux messages véhiculés par les entreprises du jeu.

Un modèle théorique est proposé comparant l'efficacité de ces deux stratégies. Certaines variables complémentaires sont développées, mettant en lumière les conditions dans lesquelles un message incitant à résister pourrait être plus efficace qu'un message destiné à persuader.

Mots clefs : prévention, jeunes, dépendance au jeu, résistance à la persuasion, théorie de l'inoculation

The Gambling industry, one of the fastest growing industries in the world (Binde, 2007), expends each year more money to advertise its products, (Binde, 2007; Monaghan, Derevensky and Sklar, 2008), an allocation of money which far outweighs the amounts designated for the prevention of problem gambling. For example, Ontario, a state cited as spending more on problem gambling prevention, treatment and research than any other jurisdiction in the world, spent in 2003/2004 CDN\$36 million on problem gambling prevention when, at the same time, Ontario Lottery and Gaming Corporation's advertising budget exceeded CDN\$570 million (Monaghan, Derevensky and Sklar, 2008).

This imbalance seems unfortunate especially when it comes to youth and gambling attitudes and behaviour. Increasing evidence suggest that teenagers are engaging in gambling and develop more gambling-related problem than any other age cohort. Research in Canada, the US, the UK or Australia, has shown that 63 % to 82 % of teenagers over the age of 12 gamble each year despite the legal age restriction. 10 % to 15 % are at risk of becoming pathological gamblers while 4 to 10% have already been touched by serious gambling problems (Derevensky and Gupta, 2004; National Research Council, 1999).

Gambling advertising is not without responsibility in the development of this hazardous behaviour. A growing amount of researchers has pointed out the detrimental effect of gambling advertisements. Using images of attractiveness and fun, they vehiculate the general idea that gambling is a normal, exciting, enjoyable and harmless form of entertainment. They induce a positive attitude toward gambling which in turn may be in cause of gambling related problem development (Derevensky et al., 2007, Korn et al., 2003, McMullan and Miller, 2009).

Actual prevention campaigns are designed in the general goal to increase public awareness about gambling related problem. They generally provide youth with information about gambling related risks and present responsible gambling behaviour as a way to avoid those risks. Unfortunately, when they have to compete with gambling companies conflicting messages, such efforts appear to be unsuccessful. Even if awareness of problem gambling increase, youth's positive attitude toward gambling remains unchanged (Messerlian & Derevensky, 2006).

Yet an important question remains: what type of message conveyed to counteract gambling advertising appeals and to develop a healthier attitude and behaviour toward gambling among the young generation?

In the tobacco domain it has been suggested that an efficient way to reduce cigarette consumption might be to attack directly the positive image associated with smoking and/or the tobacco industry (Pechmann and Knight, 2002; Farrelly, 2002). This demonstration of efficacy led Byrne et al. (2005), after a review of the existing literature on past and current drug, alcohol, and tobacco use prevention media campaigns, to present denormalization messages (which challenge directly the positive image associated with gambling) and industry manipulation messages (which “underline the fact that in order to make profits the industry must produce games designed to make individuals repeatedly lose money”) as a promising way to improve gambling prevention message efficacy.

Further evidence in this direction comes from study based on the inoculation theory framework. Petrova et al. (2008), for example, proposed that in order to induce a more responsible attitude toward a health care product two types of counter arguments can be developed: supportive counter arguments and refutational counter arguments. Supportive arguments give information about the potential risk associated with the consumption of the product. Refutational counter arguments attack directly and undermine the claims of the health product’s advertisement.

In order to test the relative efficiency of these two types of counter arguments they conducted a two-session study. During the first session, participants were exposed to an advertisement for a factious allergy medication called Levatin claiming that “Levatin was effective for 93% of the patients”. One week later, during the second session, participants viewed consumers’ reports messages directly undermining the claim of the allergy medication ad (e.g. “35% of the participants continued to experience the symptoms they had had prior to taking Levatin”) or containing information about the potential risk of an attribute of the product not mentioned in the commercial ad (e.g. “30% of the participants taking Levatin experienced significant effect side”). The result revealed that, when the

source of the counter message is perceived as credible, directly undermining ad's claims had a stronger negative effect on brand attitudes and purchase intentions than an equally strong negative information unrelated to the claim of the promotional ad.

Typical inoculation procedures have been successfully applied in the health preventive context including smoking (Pfau & Van Bockern, 1994) and alcohol drinking (Goldborg & Pfau, 2000). However, implications of these kinds of studies in term of youth problem gambling prevention have not been examined.

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The underlying idea is, if one wishes to promote healthy attitudes and behaviours toward gambling among youth, it may be more efficient to provide counter information that attack directly and refute the claims made by gambling companies than to provide information that improve awareness of gambling related problem but are unrelated to the claims of gambling ads. The focal question of this paper is whether and under which conditions this type of approach could counterbalance the effect of gambling advertising on youth's attitude and behaviour.

EFFECTS OF GAMBLING ADVERTISING ON YOUTHS' PERCEPTIONS AND ATTITUDES TOWARD GAMBLING

According to the tenets of Social Cognitive theory (Bandura 1986), children learn from what they see but are more likely to imitate behaviours that they perceive as rewarding. Thus message comprehension or exposure does not automatically lead to message acceptance and behavioural outcome.

In the case of gambling, research suggest that commercial advertising has been more successful than prevention efforts at influencing youth's perceptions, beliefs and attitudes about gambling (Derevensky et al., 2007; Korn et al., 2003; Mc Mullan and Miller, 2009).

Youths are frequently exposed to gambling advertisements (most often on television but also on Internet, billboards and magazines) (Derevensky et al., 2007). This high level of exposure has led to the normalization of gambling behaviour. Gambling is became a normal behaviour, an exciting and enjoyable activity, a harmless and normal form of entertainment. It forms a part of normal adolescence's experience as school,

instant messaging or summer vacation (Korn, Hurson & Reynolds, 2003; McMullan ~~and~~ Miller, 2008).

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In analysing a sample of 920 lottery ads that were placed or played in Atlantic Canada from January 2005 to December 2006 McMullan and Miller (2009) “ found that there was an ethos of winning” in these commercials that provided the embedded words, signs, myths and symbols surrounding lottery gambling”. According to these authors “the tangible and emotional qualities in the ads were especially inviting to young people creating a positive orientation to wins, winning and winners, and lottery products that, in turn, reinforced this form of gambling as part of youthful consumption practices”. They rely on cultivation theory (Gerbner, 1986) to denounce the cultivator effect of these commercials and developed the term of “dream culture”. Through the dream culture “the impossible is rendered possible”. Youth are encouraged to imagine or dream about what they could buy with their winnings and to develop some counterfactual thinking (i.e. “it could happen to me” “it’s my lucky day”) (Landman & Petty, 2000). As a result, they are encouraged to buy lottery tickets and to do so despite the legal age restriction.

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Indeed, the powerful impact of media and particularly of advertising on people’s attitudes and behaviours is widely acknowledged and youth appear to be particularly vulnerable to those effects. For instance, Derevensky et al. (2007) found, that 42% of the adolescents they interviewed were influenced in their gambling behaviour by the ads they saw and heard. In addition, Griffiths and Barnes (2008) discovered that 40% of a sample of British young adult online gamblers did so as a result of advertising. According to Landman and Petty (2000 p 313) “Marketing simulates and exploits counterfactual thinking to get consumers’ attention, change their thinking and arouse their emotions, all in service of inducing them to do what they perhaps would otherwise not, that is to say buy lottery tickets”.

In the light of factors that research has shown to contribute to at-risk gambling, as high awareness of availability of gambling products, erroneous beliefs about gambling (i.e. “it’s my lucky day”) and early age of onset (Blaszczynski and Nower, 2002; Lesieur, 2001; Landman and Petty, 2000), it is now, well established that gambling advertising

may have harmful effects among the young generation (Monaghan, Derevensky and Sklar, 2008).

In the tobacco and alcohol domains, the demonstration of the potential harmful effect of advertising has led to its strict regulation and sometimes to its ban (Monaghan, Derevensky & Sklar, 2008). In the case of gambling advertising, even if some regulations exist (in the UK or Australia for example), they remain largely limited (Monaghan, Derevensky and Sklar, 2008).

PREVENTION EFFORTS

Unfortunately, prevention campaigns are not as persuasive, particularly among the young population.

They provide information on problem gambling, encourage “to know your limits” or “gamble responsibly” without undermining the positive image associated with gambling (Messerlian and Derevensky, 2006). Their contents are generally influenced by the Protection Motivation theory (Rogers, 1983; Floyd et al., 2000) or the Health Belief model (Becker, Haefner, & Maiman, 1977). They are both referred to as risk learning models by Pechmann (2001) because they pursue the similar goal to provide information about health risks and to present a behaviour that will minimize those risks.

According to these models, people are more likely to avoid maladaptive behaviours or to adopt a responsible behaviour if they are aware of the health risk severity, their susceptibility to it (the perceived threat) and they feel capable to perform the advocated behaviour (the perceived effectiveness).

Despite the amount of empirical support that they received, their efficacy, in a real world setting, remains open to discussion (Austin, Pinkelton, Fujioka, 1999; Pechmann, 2001). Indeed, most of health communication studies, that use the framework of risk learning models, involved controlled experiments. More often, the goal of these experiments is to determine if subjects exposed to the health message feel or not more vulnerable to the risk, are more aware of the severity of this risk and in consequence if it led to attitude change toward the risky behaviour. Seldom health messages have been tested in order to compete with ads that proclaim the benefits of this risky behaviour (for

example alcohol advertising, tobacco advertising or of course gambling advertising) (Pechmann, 2001; Byrne et al., 2005; Petrova et al., 2009). Furthermore investigations have been predominantly focused on immediate attitude change with little attention to the persistence of this change over time.

As research examining the effectiveness of such communication reveals, gambling prevention messages increase perception of risk related to gambling (Williams et al., 2007). However, their impact on the favourable image of gambling promoted by the gambling industry is quasi nonexistent. Youths' attitudes and behaviours toward gambling remain largely unchanged (Monaghan, Derevensky and Sklar, 2008), even if they are more aware of risk associated with excessive gambling. In most cases, they felt that they were immune to those risks; they are invulnerable because they are capable to manage gambling risks (Korn, Hurson and Reynolds, 2003). Thus, gambling prevention messages that rely too heavily on negative/harmful effect of gambling behaviour are perceived unrealistic (Messerlian and Derevensky, 2006).

This general feeling of invulnerability is also directed toward gambling advertising. As Korn, Hurson and Reynolds (2003) reported in their study using adolescents age 13-17 "Almost every participant claimed that advertising had no effect on them and that they were able to "see through" the techniques of advertising to the underlying motives. Nevertheless, their comments, anecdotes, and stated intentions about gambling behaviour support the hypothesis that gambling advertising does influence them." (p. 34-35)

INOCULATION THEORY: A THEORETICAL AND PRACTICAL FRAMEWORK FOR THE PREVENTION OF YOUTH GAMBLING

In medicine there are two general options to reduce the risk of being infected with a disease. The first is to give a high level of support in order to strengthen the individual's immune system. Another option is to give a weakened dose of the attack that is not so strong as to overwhelm the defences but strong enough to stimulate the immune system, thus developing immunity to later attack. The second option is called the inoculation process.

William McGuire's inoculation theory (1964) is based on its biological analogy. He predicted that, in the same way that people can be made resistant to a virus by being inoculated by a weakened form of that virus, people can be immunized against an attitudinal attack by being inoculated with a weakened form of that attack. The immunizing effect is caused by two basic components. The first component is threat, conceptualized as person awareness that his/her attitudinal position is vulnerable to attack. According to Mc Guire persuasive targets suffered from a "motivational deficit" to actively defend their attitudes, particularly when attitudes have not previously been threatened, due to a general feeling of invulnerability. "An underlying assumption about the process of inoculation is that a receiver must feel threatened to motivate the work needed to strengthen an attitude"(Compton & Pfau, 2005, p. 100). Instead of mentioning arguments which support an existing attitude, the threat is supposed to be induced by the mentioning of argument against this attitude (i.e. the weakened form of the attack). An assumption in line with several studies within the literature on perceive risk which indicates that one's level of prior personal experience with the risk factor can moderate optimistic bias (Helweg-Larsen, 1999; Norris et al.,1999).

The second component is refutational pre-emption, i.e. explicit refutation of arguments against the attitude. According to McGuire and Papageorgis (1961) "The person, due to a lack of practice, is inept at defending his beliefs". They reasoned that this cognitive principle can be reversed by giving to people the ability to defend their attitudes. Pre-emptive refutation demonstrates how to counterargue an attack and therefore provides a model for later diminishing the impact of a subsequent attack.

Thus, supportive treatments, which give arguments in support of an existing belief, are presented as excellent at increasing the level of attitude acceptance as long as no attack occurs (in a persuasion context). However, they leave the individual unmotivated to learn defensive arguments and overconfident in the surety of his position. Thus, as a result, he/she is unable to resist when an attack occurs (Hunt 1973).

In the initial test of the inoculation technique, Mc Guire & Papageorgis (1961) compared supportive and refutational defensive treatments. In the supportive defence

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condition, participants were asked to read or generate a message that supports a belief statement (i.e. “mental illness is not contagious”). On the other hand, in the refutational defense condition, participants were asked to read arguments against the belief statement and then generate or read a message that refutes those arguments. Two days later, participants were presented with an essay arguing against the belief. Findings revealed that, although the refutational defence was not more effective than the supportive defence in strengthening the belief before the attack, after the attack, participants who received the inoculation treatment were more resistant to the attack than participants in the supportive defence condition.

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Several studies have tested the immunizing ability of refuted arguments (inoculation) (Mc Guire 1964, Mc Guire and Papageoris 1961, Pfau and Burgoon 1988, Pfau et al. 2003; Wan and Pfau, 2004; Compton and Pfau, 2004). From these studies two majors conclusions can be drawn: 1) exposure to refuted arguments confers a greater degree of resistance to persuasion than does simple exposure to supportive arguments (arguments which support the advocated attitude) and 2) this superior efficiency remains even if the subsequent attack presents different arguments from those initially refuted (McGuire, 1961, Pfau and Burgoon, 1988; Wan and Pfau, 2004; Compton and Pfau, 2004).

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According to McGuire, for being efficient the inoculation treatment have to be directed toward what he calls a cultural truism “...beliefs that are so widely shared within the person’s social milieu that he would not have heard them attacked and indeed, would doubt than an attack were possible” (McGuire, 1964, p 201) i.e. “Everyone should brush his teeth after every meal if it all possible”.

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However, more recent studies extended application of the inoculation treatment to more controversial and contested topics such as political campaigns (Pfau and Burgoon, 1988), public relations (Wan and Pfau, 2004), social issues as credit card debt among college students (Compton and Pfau, 2004) or student plagiarism (Compton and Pfau, 2008) or health –preventive contexts as smoking (Pfau and Van Bockern, 1994) and drinking (Goldborg and Pfau, 2000). “The logic of the refutational approach applies irrespective of whether the content domain is controversial or not” (Pfau, 1997 p.141).

But as Pfau and Van Bockern (1994) indicate, inoculation “is a strategy appropriate to promote resistance to attitude change, not to change attitudes.” (p. 415). The process of inoculation is, therefore, a preventive process which necessitates a prior attitude in favour of the inoculation position. In the case of youth gambling, studies point out that most adolescents possess strong attitudes opposing gambling at the time they commence the transition from primary to secondary (i.e. “gambling is a bad idea” “Gambling is not a good thing for someone my age to” “Playing National Lottery draw games can lead to serious money problems”) (MORI Social Research Institute, 2006; Wood and Griffiths, 2004; Wiebe and Falkowski-Ham, 2003). However these opposite attitudes deteriorate during the secondary school. “As age increase the likelihood of thinking that gambling is okay as long as you stick your limit increases” (Wiebe and Falkowski-Ham, 2003 p.50).

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In the domain of smoking and alcohol preventions, resistance to persuasive intent has been presented as a way to enhance abstinence. Researchers have argued that this strategy is more efficient than attempting to persuade youth to cease drinking or smoking once they have begun (Pfau et al. 1992, Pfau et al. 1994; Godbold and Pfau 2000). In the case of youth gambling prevention we follow the same logic.

Process of inoculation

According to the tenets of Elaboration Likelihood Model (Petty and Cacioppo, 1986) persuasive messages can be processed through two different routes: the central and the peripheral routes. The central route consists of “thoughtful consideration of the arguments (idea, content) in the message” (Stephenson et al., 2001). The receiver carefully scrutinizes and evaluates the persuasive communication to determine the merits of the arguments. When arguments are perceived as weak, counterarguments are generated and the message loses its persuasive power.

This route is the most effortful, cognitively speaking. It will only be taken when the individual possesses adequate levels of both motivation and ability in the sense of cognitive capacity (Petty and Cacioppo, 1986; Stephenson, 2001).

On the contrary, peripheral route focus on practically everything except the actual content of the message itself such as source of the message, colour, music, images, etc. This is the route used by gambling ads to persuade. “The content and tone of many of the ads did try to connect to certain lifestyle clusters and social identity features that blended smoothly into a relatively youthful world enamored with wanting to have fun, get ahead fast, look for shortcuts to success, find quick fixes to problems, and overcome the fears and risks of the future” (Mc Mullan and Miller, 2009 p.291).

Despite the lack of evidence regarding the process mediating the effectiveness of the inoculation treatment, a review of the existing literature leads us to distinguish two paths to inoculation-induced resistance to persuasion.

The first path passes through the central route. The inoculation message, through the threat, increases the individual’s motivation to elaborate and scrutinize the informational content of the persuasive appeal and the refutational pre-emption give him the ability to counterargue. This path is supposed to result in a stronger attitude because, as it has been shown, when people resist persuasive attacks, those attacks can have a boomerang effect, making the existing attitude stronger than it already was (Tormala and Petty, 2002).

Thus, when exposed to the attack the inoculated subject perceived the threat which in turn triggers the process of counterarguing and results in greater attitude strength. This path was suspected by Mc Guire (1961) and has been demonstrated by Pfau and his colleagues in several studies (Pfau and Van Bockern, 1994; Pfau, 1997; Pfau et al., 2003; Wan and Pfau, 2004; Compton and Pfau, 2008). However, Pfau considers the perceived threat as a direct outcome of the inoculation message and not as a result of the interactive effect of the inoculation message and the attack. The main goal of the inoculation procedure, according to McGuire’s initial work, is to enhance the individual’s aptitude to recognize a persuasive intent, ie a threat. It is, therefore, plausible that the perceived threat will be greater right after the attack than before.

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The second path of inoculation-*induce resistance* is more direct suggesting that people may resist simply because the inoculation treatment message undermines the credibility of the source of the persuasive intent and therefore its persuasive efficacy.

Source credibility has been presented as a key peripheral cue increasing or reducing the persuasive effectiveness of a message (Petty and Cacioppo, 1986; Tormala and Petty, 2002; Stephenson et al., 2001). In the case of inoculation studies, researchers found that inoculation messages undermine the credibility of the source of the attack messages (Pfau and Burgoon, 1988; Pfau et al., 2000 see Compton et Pfau, 2008). However few works attempted to test this detrimental effect in terms of resistance to persuasion (Compton and Pfau, 2008).

Inoculation studies, and specifically in the health preventive domain, provide strong evidence of the efficacy of inoculation messages. However their implications for creating resistance to gambling ads persuasive intent have not been examined. Furthermore little insight exists about the conditions under which and to what extent a preventive message can successfully compete with conflicting messages resulting in a more general healthy attitude and behaviour. To address these questions we propose a set of research propositions.

RESEARCH PROPOSITIONS

Following the previous literature review, we propose that public organizations will be more efficient in their effort to develop a responsible gambling attitude among youth if they take into account the potential detrimental power of gambling advertisements. Instead of advocating youth to gamble responsibly and/or providing information about risks associated with excessive gambling behaviour (what we refer to as a supportive message) we propose that a more successful strategy may be to provide information that directly refutes the claims of gambling ads (what we refer to as an inoculative message).

First considering the potential harmful effect of gambling advertisement, we propose that:

H1: In the control condition (no gambling prevention message) subjects exposed to a gambling ad will have less negative attitudes toward gambling and a greater intention to gamble than subjects exposed to a non-gambling advertisement.

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Then, as it has been demonstrated that resisting to a persuasive attack may make the existing attitude stronger, thus:

H2: In the inoculative message condition subjects exposed to a gambling ad will have more negative attitudes toward gambling and a weaker intention to gamble than subjects exposed to a non-gambling ad.

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This assumption is in line with several studies which highlighted the delayed impact of the inoculation treatment. Attitude strength and behavioural intent reached their higher level when the attack occurred (Hunt, 1973; Compton and Pfau, 2008; Ivanov et al. 2009).

To our third and fourth propositions, we follow the idea that an inoculation strategy will be more effective to counteract the effects of gambling advertising than a supportive strategy, therefore:

H3: When exposed to a gambling ad subjects in the inoculative message condition will have a more negative attitude toward gambling and a weaker intention to gamble compare to subjects in the supportive message condition or in the control condition.

Considering the two paths of inoculation-induced resistance to persuasion, we propose that:

H4: This differential effect will be mediated by perceived threat, cognitive responses to the gambling ad and perceived credibility of the source of the gambling ad in such a way that when exposed to a gambling ad subjects in the inoculative message condition compare to subjects in the supportive message condition or in the control condition:

H4a: will perceive a greater threat

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H4b: will generate more counterarguments in response to the ad

H4c: will perceive the source of the gambling ad as less credible

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Our fifth and last research proposition, take into account the effect of the source of the preventive message.

At the same way that a negative perception of the source of the gambling advertisement can affect negatively its persuasiveness, the perception of the credibility of the source of the inoculative message may affect its impact.

As we said before, research on attitude change and persuasion suggested that source credibility, which refers to as message source's perceived expertise, trustworthiness and attractiveness, can influence the evaluation of an attitude object (Albarracin, 2002; Petty and Wegener, 1999). In absence of pre-existing trust, research on trait inference have shown that sources can endorse the evaluation they convey in such a way that "the one who dislikes become the one who are disliked"_(Gawronski and Walther, 2008). Therefore, a social source which reveals the manipulative intent of a promotional source may be perceived as in turn as manipulative.

This reverse transfer may annihilate the impact of the inoculative message or worse generate a boomerang effect against it. This effect has been widely demonstrated in political advertising where it is now well admitted that to directly attack an opponent can be counter-productive (engender strongly negative feelings against the attacker) when the source of the message is not perceived as truthful.(Yoon, Pinkleton and Ko.,2005, Garramone 1985). Then:

H5: The perception of credibility of the source of the preventive message will moderate the differential effect of the refutational message vs. the supportive message on:

H5a: perceived threat

H5b: cognitive responses to the gambling ad

H5c: perceived credibility of the source of the gambling ad

H5d: attitude toward gambling and intention to gamble

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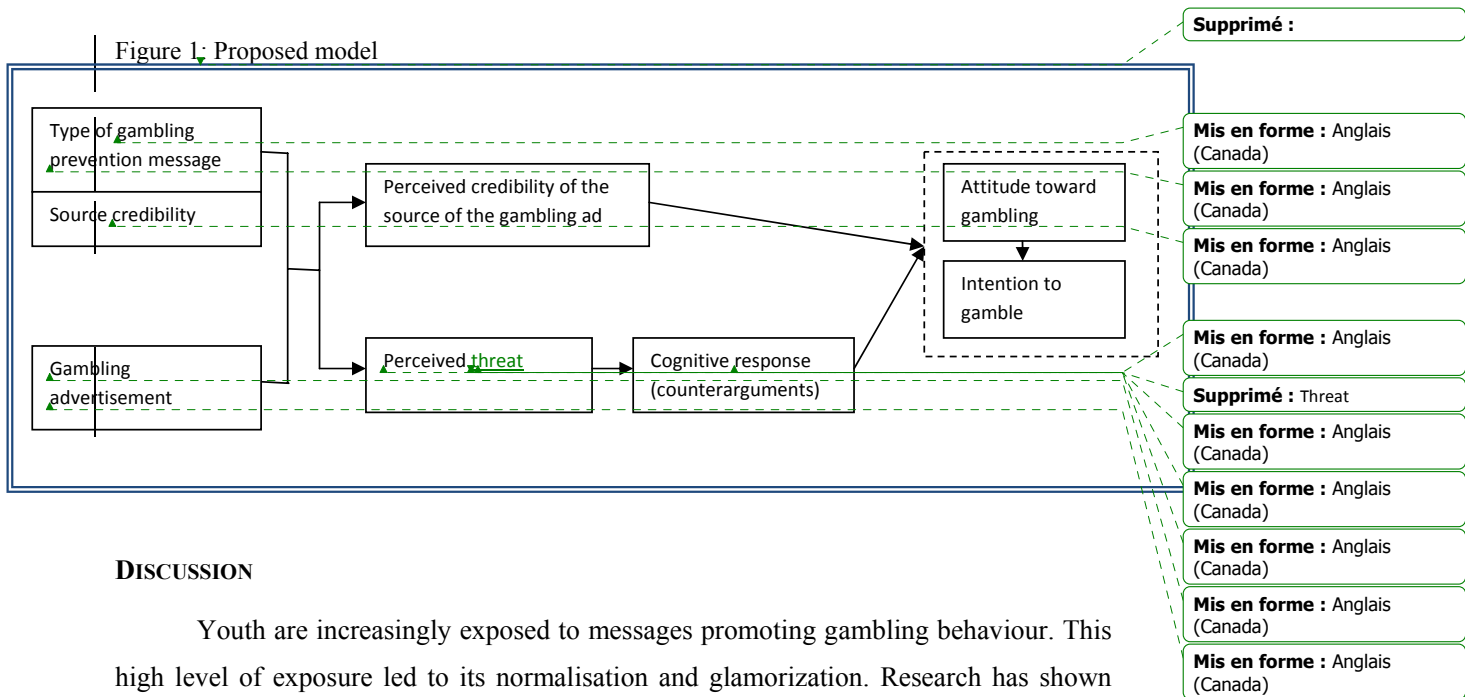
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Figure 1. Proposed model



DISCUSSION

Youth are increasingly exposed to messages promoting gambling behaviour. This high level of exposure led to its normalisation and glamorization. Research has shown that a positive attitude toward gambling paired with an early age of onset of gambling behaviour represent a significant risk factor for the development of gambling related problems. There is, therefore, a need for public organizations to develop preventive messages able to counteract these detrimental effects.

Actual prevention efforts are motivated by the general goal to increase awareness of gambling related problems and to present responsible gambling behaviour as a way to avoid these problems. Unfortunately, such efforts are often unsuccessful when they have to compete with conflicting messages promoting gambling as a fun, exciting and harmless form of activity.

We propose that a preventive message that undermined the specific claims with which gambling is promoted, may be more effective in creating resistance and in keeping a healthy attitude and behaviour toward gambling among youth than a preventive message that give only information about gambling related problem.

Such a proposition is consistent with research demonstrating that anti-smoking campaigns that attack directly the positive images associated with smoking (Pechmann

and Knight, 2002) and highlight sneaky marketing tactics used by tobacco companies (Farrelly, 2002) can offset the effects of common tobacco ads.

As far as we know, this theoretical perspective is the first attempt to apply the framework of the inoculation theory to the gambling prevention domain. It is also the first to analyse the joint effect of gambling prevention messages and gambling promotional advertisements.

Many contributions can be expected of this audacious work. From a practical viewpoint, understanding the joint effect of preventive messages and gambling advertisements can help public organisations to develop more efficient gambling prevention campaigns. From a theoretical viewpoint, a more general goal is to enrich the understanding of the inoculation process. Little insight exists about the process mediating the effectiveness of such a procedure and the conditions under which directly attacking an ad's claim will result in a greater impact on attitude and behaviour than providing accurate information unrelated to the claims of the ad.

To address these questions we developed a set of research propositions with the hope to highlight the applicability of the inoculation framework in the gambling prevention domain.

FUTURE RESEARCH AVENUES

Are Inoculated subjects able to resist to multiple attacks? In other word, is an inoculative message able to create resistance to multiple gambling ads exposition?

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Research in the inoculation field has shown that an inoculation procedure can create a long-term resistance, able to resist in the face of multiple attacks (Ivanov, Pfau and Parker, 2009). Such assumption has to be tested in the specific gambling domain.

Moreover, including images directly linked to the gambling ad in the inoculative message could improve its efficacy. A growing body of research has demonstrated that reinstating the retrieval cues that were present during encoding greatly facilitates recall (Petrova et al., 2008; Tulving and Schacter., 1990). However, few studies using the inoculation theory framework tried to test such effect.

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