

Disclosure of the Persuasive Intent behind the Placement of Risky Products in Movies:
Consequences for Cognitive and Affective Processing

by

Andriy Kovalenko

A dissertation submitted
in fulfilment of the requirement for the degree of
Doctor of Philosophy

at the

University of Otago,
Dunedin, New Zealand

2012

ABSTRACT

The placement of ‘risky’ products, such as alcohol and tobacco, and their brand imagery in movies is used by some of their sellers for promotional campaigns. Drawing upon the extant literature on persuasion and product placement, this thesis discusses the practical and moral implications of product placement in general, and the placement of risky products in particular. The results of the experiment that forms the core of this dissertation suggest that audiences would benefit from the disclosure of the persuasive intent of placements of alcohol and tobacco products in films.

The primary purpose of this study is to explore the impact of the disclosure on an audience’s processing of product placements. The research consists of a pre-test and a main study. The pre-test is conducted to find the most immediately and universally comprehensible wording of a disclosure of the persuasive intent (DPI) of the placement of alcohol and tobacco products. The main study tests the impact of this disclosure on the audience’s recall, recognition, acceptability and awareness of the manipulative intent behind the placement of risky products in a short segment of a feature film.

This research shows that the use of a DPI can have demonstrable, if occasionally surprising, impacts on the ways that people understand the placement of risky products and how they feel about this practice. In particular, the study shows that the disclosure facilitated the recall of the placement of risky products, though it had no effect on recognition of the placement of these products. The disclosure also made consumers of risky products more accepting of the placement of risky products than non-consumers of risky products. The thesis concludes with the discussion of research contributions, implications, limitations and suggestions for further research.

ACKNOWLEDGEMENTS

Above all, I would like to thank Dr. Ben Wooliscroft for support and guidance in execution of this thesis. Your patience and academic experience have been invaluable to me. I greatly appreciate your time and ideas to make my PhD experience stimulating and productive.

I am very grateful to Dr. John Guthrie for his encouragement and inspiring jokes. Thank you for offering me the opportunity to teach.

Special thanks must be given to Dr. Rob Aitken for assisting me with the voiceover of the research treatment. I am also grateful to Dr. Damien Mather, Dr. John Williams and Mr. Brian Niven for helping me with the data analysis.

Last but not least, I would like to thank those closest to me. These are my parents, my sister and my partner Amiria whose constant emotional and moral support has made this thesis possible. Special thanks to my sister Tanya for helping me with the development of the research stimulus.

TABLE OF CONTENTS

<i>Chapter 1: Introduction</i>	9
Justification for the Research	9
Thesis Outline	11
Methodology	13
<i>Chapter 2: Interpreting Risky Products in Movies in Terms of the Practice of Product Placement</i>	15
2.1 The Phenomenon of Product Placement	15
2.2 Risky Products in Movies	19
2.3 Regulations on the Products Appearing in Non-Commercial Programmes for Commercial Purposes	22
Conclusion	25
<i>Chapter 3 : Effects of the Disclosure of the Persuasive Intent on Memory and Persuasion.</i>	
Attributes of the Effective Disclosure	26
3.1 Cognitive Responses to Persuasion. Hypotheses on Recall and Recognition of Placements Cued by the Disclosure	26
3.2 Affective Responses to Persuasion. Hypotheses on Attitude Change	32
3.3 The Disclosure's Effectiveness	40
<i>Chapter 4 : Methodology</i>	44
4.1 Treatment Development. Methodology of the Pre-Test	44
Test Materials	45
Interpretation of the MIT results	46

Procedure _____	48
4.2 Methodology of the Main Study _____	50
Study design _____	51
Subjects _____	52
Materials _____	53
Questionnaire _____	57
Procedures _____	59
Approach to the Data Reporting and Analysis _____	59
<i>Chapter 5 : Data Analysis</i> _____	62
5.1 Pre-Test _____	62
Sample Information _____	62
Results _____	62
5.2 Main Study _____	64
5.2.1 Results _____	64
Sample Information _____	64
Hypotheses on Recall of Product Placements _____	65
Hypotheses on Recognition of Product Placements _____	67
Hypotheses on the Memory of Placements Presented in Different Modalities _____	69
Hypotheses on Acceptability of the Placement of Risky Products _____	71
Hypotheses on Acceptability of the Placement of Risky Products Depending on Consumption of Risky Products _____	73
Hypotheses on Acceptability of the Placement of Risky Products Depending on the Use of File-Sharing Platforms _____	75
Hypotheses about Awareness of the Persuasive Intent behind the Placement of Risky Products _____	76

5.2.2 Discussion	76
Recall-Related Findings	78
Recognition-Related Findings	80
Acceptability-Related Findings	81
Findings on Acceptability of the Placement of Risky Products Depending on Consumption of Risky Products	82
Findings on Acceptability of the Placement of Risky Products Depending on the Use of File-Sharing Platforms	84
Findings on Awareness of the Persuasive Intent	84
<i>Chapter 6 : Conclusion</i>	86
Overview of Findings	86
Research Contributions	87
Limitations	89
Implications for Methodology	91
Implications for Policy and Practice	91
Further Research	93
References	96
Appendix A	112
Appendix B	114
Appendix C	124
Appendix D	127

LIST OF TABLES

Table 1: Risky Products in the Stimulus.....	54
Table 2: A´ Scores Collapsed Across the Entire Sample	63
Table 3: A´ Scores Averaged Across Individual Subjects	64
Table 4: Counts of Unbranded Risky Products Recalled.....	66
Table 5: Counts of Branded Risky Products Recalled.....	66
Table 6: Counts of Unbranded Risky Products Recognised	67
Table 7: Counts of Branded Risky Products Recognised	68
Table 8: Counts of Branded Risky Products Recalled in the Experimental Group Depending on Modality	69
Table 9: Counts of Unbranded Risky Products Recognised in the Experimental Group Depending on Modality	70
Table 10: Counts of Branded Risky Products Recalled in the Experimental Group Depending on Plot Connection	71
Table 11: Acceptability of the Placement of Cigarettes among Smokers and Non- Smokers in the Presence of the DPI.....	73
Table 12: Acceptability of the Placement of Hard Liquor among Drinkers and Non- Drinkers in the Presence of the DPI.....	74
Table 13: Acceptability of the Placement of Branded and Unbranded Tobacco Products among Smokers in the Presence of the DPI.....	74
Table 14: Acceptability of the Placement of Branded and Unbranded Alcohol Products among Drinkers in the Presence of the DPI.....	75
Table 15: Summary of Findings	76

LIST OF FIGURES

Figure 1: Model of Processing the Placement of Risky Products in the Presence of the DPI.....	40
Figure 2: Test Materials	49
Figure 3: Information Disclosure	56

Chapter 1: Introduction

This thesis sets out to discover if people's attitudes towards the placement of potentially dangerous products will change if they are warned about those placements and the intention behind them in advance. In other words, how does a person respond to the news that they are being covertly but deliberately encouraged to consume products that are harmful? Do all people respond the same way? If not, what factors might influence their reactions?

Consumers develop personal knowledge of how marketers try to persuade them, and use this knowledge to respond to these attempts at persuasion (Friestad & Wright, 1994). One of the most common responses consists of simply trying to ignore persuasive messages (Petty & Andrews, 2008). Television advertisements are especially prone to such treatment. Consumers routinely skip them with remote controls and digital video recorders (Wenner, 2004). Advertisements are easy to identify and skip because they overtly identify the message's sponsor (Balasubramanian, 1994). Practitioners cope with the consumers' ability to avoid advertisements in part by making other promotional messages that are less conspicuous. Without the explicit reference to sponsors, it becomes more difficult for consumers to identify the nature of the persuasive communication (Kuhn, Hume & Love, 2010). The time-honoured practice of product placement, "the deliberate insertion of branded products into an entertainment program aimed at influencing the audience" (Law & Braun-LaTour, 2004, p. 63), is one of the most common forms of covert persuasive communication.

Justification for the Research

Practitioners believe that the audience can be influenced by placements even without the overt promotion of placed products (Kuhn, Hume & Love, 2010). The rationale behind this belief consists in the fact that television and movies can influence the beliefs, values and even the behaviour of people (Slater, 2002). Researchers and practitioners also believe that, as a part of entertainment programmes, brand imagery can engender cognitive and affective responses in members of an audience (Karrh, 1998).

Karrh (1998) pointed out that practitioners tend to emphasise brands rather than products in product placement. This is true in most cases, though the encouragement of the consumption of products in general can be similarly persuasive. In the United States, the insertion of drink-driving prevention messages in several top-rated television programmes was associated with a 24 % decline in alcohol-related fatalities from 1988 to 1992 (Winsten, 1998). Conversely, observing the glamorised consumption of alcohol in movies was found to make adolescents 28% more likely to start drinking (Stoolmiller et al., 2012). These examples suggest that “media gatekeepers” can influence their audiences by encoding in the programme content not only brands themselves, but also consumption-related imagery (Solomon & Englis, 1994, p. 9).

Since the early 1990s, American advocacy groups have been concerned that the practitioners of product placement influence consumers without their knowledge (Balasubramanian, 1994), and, therefore, without their consent. To protect consumers from the possible subconscious impact of commercially driven product placement, these groups have been lobbying for the mandatory disclosure of the persuasive intent behind product placements (Segrave, 2004). Not surprisingly, practitioners have persistently opposed all attempts to regulate product placement (Strain, 2009). They argue that such disclosures would be excessive, disrupting the enjoyment of consumers rather than informing them about the practice, which practitioners claim consumers are already aware of (FCC, 2008).

Both sides can find support in the existing academic research. Practitioners may strengthen their position by using the study of DeLorme and Reid (1999), which found that consumers feel favourably toward placements and are aware of their purpose. Another study revealed that disclosing products placed in a film does not affect consumer attitudes toward them (Bennett, Pecotich & Putrevu, 1999). On the other hand, advocacy groups may justify the necessity for disclosing the intent of placements by referring to research that suggests that anti-smoking advertisements shown before a film nullify the otherwise positive impact of smoking scenes on the audience’s intentions to smoke (Pechmann & Shih, 1999). They could call up on research that suggests that disclosing the persuasive intent behind product placements makes viewers less accepting of alcohol (Russell & Russell, 2008).

The situation may, in fact, be simpler than this debate suggests. Many consumers simply feel indifferent about the practice of product placement (Schmoll et al., 2006). Indifference suggests a lack of personal involvement in the issue. The only thing which concerns many

consumers is the placement of such risky products as alcohol, tobacco and firearms (Gupta and Gould, 1997). Despite this concern, consumers can hardly identify the placement of risky products as an issue of personal involvement because most placements are not presented prominently enough to be processed consciously.

Given both this concern and the difficulty associated with identifying placements of such products, this thesis aims to study the effect on audiences of a carefully worded disclosure of the persuasive intent of the placement of risky products in a segment of a feature film. This disclosure of the existence of risky products and the persuasive appeal behind their portrayal in movies is predicted to

- facilitate the recall and recognition of the placement of risky products;
- increase awareness of the manipulative intent behind the placement of risky products;
- influence acceptability of the placement of risky products.

This thesis is aimed at discovering whether the disclosure affects people in the ways that the existing research in the field predicts.

Thesis Outline

These predictions are based on a review of the extant literature on product placement and persuasion, which is presented in chapters 2 and 3. The review begins with a discussion of the essence of product placement in terms of how it affects consumers, what factors contribute to its effectiveness, and how it is perceived by consumers and advocacy groups. It is then argued that the concept of product placement should refer not only to the placement of brands but also to *unbranded* products. This argument is supported by findings demonstrating the impact of the exposure to unbranded alcohol, tobacco and firearms on the attitudes and behaviour of viewers. The discussion then turns to the issue of how the use of product placement is regulated; however, the appearance of risky products in movies is not regulated in any special way, despite their potentially dangerous impact on the audience.

In light of the existing research, the disclosure of the persuasive intent (the DPI) is proposed as a tool that can inhibit the persuasion of audience members without their awareness.

The possible effects of the DPI on cognitive processing of the placement of risky products are discussed in terms of Craik and Lockhart's (1972) theory of levels of processing. At a minimum, subjects are expected to process the DPI's message at the level of pattern recognition. This level of processing is predicted to result in the formation of memory traces for key words in the DPI. With these memory traces, subjects are anticipated to notice and remember more placements of risky products in movies. In addition to the impact of the DPI, the modality of presentation is predicted to be one of the major factors facilitating the experimental subjects' retrieval of placements.

The subjects' level of acceptance of the placement of risky products is expected to depend on how the persuasive communication is processed. In accordance with the elaboration likelihood model of Petty and Cacioppo (1981), subjects can process the persuasive communication (both the DPI and product placements) either through central or peripheral processing routes. Issue-relevant knowledge, accessibility of attitudes toward an attitude object and the presence of forewarnings are some of the factors that determine which route is followed (Petty & Wegener, 1998). Experimental subjects are expected to follow the central route due to the presence of the DPI, and will, consequently, be more prone to change their attitudes toward product placements. Among these subjects, some people are predicted to be more knowledgeable of risky products and have higher accessibility of attitudes toward risky products and the DPI. For the purposes of this study, two sub-groups within the test subjects are assumed to have more complex relationship with risky products and will thus have higher accessibility of attitudes toward risky products and the DPI. Consumers of risky products, of course, have direct personal experience with and knowledge of these products. Perhaps less obviously, this study will single out those subjects who engage in peer-to-peer file sharing as more suspicious about commercial persuasion. These subjects will likewise have more easily accessible attitudes about product placement. As a result, subjects from these two groups are predicted to exhibit more polarised attitudes toward the placement of risky products than other subjects. It is also assumed that revealing the presence of risky products in movies can increase

awareness of the manipulative intent behind product placements and, thereby, facilitate attitude change.

Chapter 4 consists of a detailed discussion of the methodology and execution of the two experiments that comprise this research, 1) a pre-test to determine the best wording for the DPI and 2) the laboratory presentation of the DPI and the related stimulus to a group of test subjects. The results of the experiments are presented and discussed in chapter 5, followed by the discussion of the study's contributions, its implications and suggestions for further research in chapter 6.

Methodology

The DPI is predicted to affect all dependent variables mentioned in the hypotheses laid out in chapter 3. The central role of the DPI in this study demands that special attention be paid to its development. Drawing on previous research that has shown conclusively that the effectiveness of a disclosure depends on whether people understand its message (Stewart & Martin, 2004), it is necessary to find a wording for the DPI that results in the highest level of comprehension amongst a sample of subjects. The wording of the DPI was selected with the help of the meaning identification technique (MIT). Comprehension was measured by calculating the A' statistic (non-parametric version of d'), which reflects a subject's ability to differentiate between correct and incorrect answers in a questionnaire.

The impact of the DPI on subjects' processing of the placement of risky products was studied with an *after-only with control* experiment. The study used a convenience sample of university students and had a between-subjects design. The subjects of the experimental group were exposed to the DPI before watching an excerpt from the 2004 film *Secret Window*. Control groups watched the same video sequence, but were not forewarned with the DPI. Answers to the experiment questionnaire were collected immediately after the end of the video sequence.

Analysis of the data required a number of different methods. Hypotheses on recall and recognition of the placement of branded and unbranded risky products in the presence of the DPI were analysed with the Mann-Whitney, Wilcoxon signed-rank and Pearson's chi-squared tests. The impact of the DPI on the acceptability of the placement of risky

products was analysed with the Mann-Whitney test. The difference in acceptability of the placement of branded and unbranded risky products was examined with the Mann-Whitney test. Acceptability scores of consumers of risky products and file-sharers were compared with the scores of other subjects of experimental groups with the help of the Mann-Whitney test and the Wilcoxon signed-rank test. Finally, awareness of the manipulative intent in the control and experimental groups was compared with the Mann-Whitney test.

Before discussing the particulars of this experiment and its occasionally surprising findings, however, it is first necessary to lay the groundwork, which dates back as far as the nineteenth century.

Chapter 2: Interpreting Risky Products in Movies in Terms of the Practice of Product Placement

2.1 The Phenomenon of Product Placement

The appearance of Sunlight soap in the Lumière brothers' 1896 film *Washing Day in Switzerland* is reported to be the first use of product placement in a motion picture (Newell, Salmon & Chang, 2006). Since then, the essence of product placement has remained largely unchanged. Moviemakers still place branded products in their movies in return for compensation (Balasubramanian, 1994). Advertisers and companies still believe that they can predispose audience members towards a product by showing it in entertainment programmes (Russell & Belch, 2005).

Practitioners' beliefs about the impact of product placement on consumers have been supported by the following findings:

- People retain memories of placements even a week after exposure (d'Astous & Chartier, 2000).
- The placement of a branded product in television programmes can affect its brand image (van Reijmersadal, Neijens & Smit, 2007).
- Product placements influence consumers' product choices (Law & Braun, 2000) and purchase intentions (Jin & Villegas, 2007).

Practitioners are aware that the impact of product placement depends on numerous factors (Russell & Belch, 2005). They consider the following things when deciding how to execute a placement:

- The prominence of a placement (size and position on the screen, relation to the action in the scene) enhances its recall (Gupta & Lord, 1998).
- The presence of a principal actor in a shot with a product has a positive effect on evaluation and memory of that product (d'Astous & Chartier, 2000).
- Products presented only visually are recalled less frequently but generate more purchase intentions than the products presented audio-visually (Law & Braun, 2000).

- Visual placements with a low degree of connection to the plot of the film result in more positive attitudes towards a product than visual placements with high degree of plot connection. In contrast, audio placements with high degrees of plot connection engender more positive attitudes than audio placements with low plot connection (Russell, 2002).
- If audience members like a programme, they will tend to respond more negatively to prominent product placements (Cowley & Barron, 2008).
- Products presented in humorous movie scenes engender more favourable attitudes and purchase intentions than products presented in scenes that do not contain humour (Jin & Villegas, 2007).
- Products placed in movies by renowned directors have higher recall rates than those placed in other films (Lehu & Bressoud, 2008).

Factors affecting the strength of a placement's impact can be classified based on the mode of processing they engender. A product placement is processed either consciously or subconsciously by a member of the audience. These two modes correspond to the central and peripheral routes of the elaboration likelihood model (Petty & Cacioppo, 1981). When the likelihood of elaboration is high, people take the central route, scrutinising all object-relevant information. Otherwise, people follow the peripheral route of interpretation which requires less effort (Petty & Cacioppo, 1981). For central route processing to take a place, people must be both motivated to think and have the ability to think about an object (Petty & Wegener, 1998). For example, interest in a particular product or product category can motivate people to process its placement centrally. The placement of other products is usually diverted to the peripheral route of processing due to the reliance of placement practitioners on unobtrusive techniques of product integration (Balasubramanian, 1994). The peripheral route of processing produces weaker cognitive and affective impact than the central route (Petty & Wegener, 1998). Despite this, practitioners favour placements processed through the peripheral route (Russell & Belch, 2005) because people chose subtly placed products more often than prominently placed products (Law & Braun, 2000).

The question of which route of processing produces greater effects is complicated by the difficulty of measuring the effectiveness of product placement. The variables of brand recall and recognition (e.g. Russell, 2002), attitudes toward brands (e.g. d'Astous &

Chartier, 2000) and brand choice (e.g. Law & Braun, 2000) have been measured in several academic studies. Measurement is hindered by the difficulty of separating the impact of product placement from effects generated by other promotional activities. Subconscious processing makes it difficult for consumers to report accurately whether it was product placement, advertisement, sponsorship or other marketing communications that made them to buy a certain product (Karrh et al., 2003). There is no evidence to indicate that practitioners use similar measurement tools in their practice. Some of them may abstain from any form of measurement because they think it is impossible to evaluate the effectiveness and value of product placements (Russell & Belch, 2005).

The difficulty of gauging the effectiveness of placements is mirrored in the ambiguous attitudes consumers have shown toward the practice. Some people dislike unnaturally repetitive placements (Gupta, Balasubramanian & Klassen, 2000), the appearance of branded products in inappropriate settings and the use of inappropriate camera techniques (DeLorme & Reid, 1999). Other people value placements that contribute to the verisimilitude of a story (Schmoll, Hafer, Hilt & Reilly, 2006). They find a movie more enjoyable when familiar brands are shown, as well as those brands and brand designs that existed at the time when a particular story is set (DeLorme & Reid, 1999). On the whole, people have reported that they prefer the practice of product placement over traditional advertising (Schmoll et al., 2006). Neutral attitudes or simple indifference towards the practice are common. The majority of baby boomers, for example, reported indifference toward product placements (Schmoll et al., 2006). This indifference could be caused by the lack of awareness of the persuasive intent behind placements; however, DeLorme and Reid (1999) discovered that people of different ages and occupations were knowledgeable of the promotional intent of product placement. In addition, research participants did not think that product placement could influence them, and regarded it as neither deceptive nor harmful (DeLorme & Reid, 1999).

Consumer advocacy groups, however, have labelled product placement as “inherently deceptive” and “unfair because it is advertising that purports to be something else” (Strain, 2009, p. 178). Nebenzahl and Jaffe (1998) also suggest that disguising the persuasive intent behind product placements makes the practice deceptive. The United States Federal Trade Commission (FTC) defines deception as “a representation, omission or practice that is likely to mislead the consumer acting reasonably in the circumstances, to the consumer's

detriment” (Miller 1983, p. 2). If consumers acting reasonably are the only people protected against deception, then prior to acting they should process available information in a rational way. To analyse the information rationally, people must firstly be aware of it. Frequently, the products appearing in movies are presented too subtly to be noticed and assessed rationally; however, according to the FTC, these placements cannot be treated as deceptive.

Despite this, placements, especially subtle ones, may predispose consumers toward products without their awareness (Nebenzahl & Jaffe, 1998). There is no harm in advertising a product if consumers are able to assess its features and make choices that serve their preferences best. The right to be informed about product features is one of the basic rights of consumers (Kennedy, 1962). Balasubramanian (1994) suggests that viewers should be told which companies have paid for their products to appear in a particular film. However, such information is not easy to deliver, and it is not always possible to specify which placements are paid for in a given film. Furthermore, moviemakers and practitioners are rarely bound by formal agreements, and the remuneration for a placement often occurs long after the end of project (Turcotte, 1995). Labelling any product appearing in a movie as a sponsored message would also be inaccurate because some products are used for the verisimilitude of the story without being backed by product sellers (Karrh, 1998).

The lack of legal constraints allows some practitioners to use product placement indiscriminately, which has potentially negative implications for vulnerable audiences. Children are more vulnerable than other consumers because of their high susceptibility to manipulative techniques (Laczniak & Murphy 2006). They are unable to make a distinction between commercials and programme content in general (Raju & Lonial, 1989), and are insensitive to product placement in particular (Avery & Ferraro, 2000). Although more knowledgeable than children, adolescents can be also predisposed to an embedded product, even if they are generally aware of negative consequences of its use (Pechmann & Shih, 1999). Low-income and under-educated people, who have been also found to be more susceptible to influence than other categories of consumers (Laczniak & Murphy 2006), may have similar difficulty in identifying the persuasive intent behind product placements.

Children and under-educated people can be considered the most vulnerable groups when it comes to effects of product placement in general, but even a broader audience requires

information about the placement of some products. Such products are referred to as ‘risky’ and their appearance in movies will be discussed in the next section.

2.2 Risky Products in Movies

Gupta and Gould (1997) were among the first academics to address the issue of alcohol, tobacco and firearms in movies. They regarded those products as “ethically charged” due to their negative effects on human health (Gupta & Gould, 1997, p. 38). Concern with the ethical status of alcohol, tobacco and guns is supported by the extensive evidence of the harmfulness of these products. Smoking is associated with at least 40 diseases (Doll, 1999). The abuse of alcohol increases the risk of stroke (Reynolds et al., 2003), makes some people more violent (Predimore, 2002) and increases the number of deaths in car accidents (Arnett, 1990). The life-threatening character of firearms is even more apparent. Around 30,000 people die from gunshots every year in the U.S. alone (Binswanger & Cowan, 2009).

Alcohol, tobacco and guns have been called “risky products” when they appear in movies (Karrh, 1998, p. 38), but the term *ethically charged products* is more popular in academic articles. However, this term is too broad to be used with regard to all categories of consumers. Children are unaware of the commercial motive behind placements (Hackley, Tiwsakul & Preuss, 2008). Thus, their insensitivity makes all products deliberately placed in children’s programmes ethically charged even if not all of these products can cause negative health effects. This idiosyncrasy of children’s perception of product placements suggests that the two terms cannot be used interchangeably. For this reason, alcohol, tobacco, other drugs and firearms in movies are referred to as *risky* rather than *ethically charged* products in this thesis.

Gupta and Gould (1997) found that college students regard the placement of risky products more ethically charged than the placement of conventional products. Gupta, Balasubramanian and Klassen (2000) further reported dislike for the placement of risky products among student respondents. The prevalence of negative attitudes toward the placement of alcohol and tobacco was also discovered among baby boomers (Schmoll et

al., 2006). The majority of parents considered the placement of risky products in children's films as the most unethical type of product placement (Hudson, Hudson & Peloza, 2008).

Despite the negative perception of risky product placements by consumers, they frequently appear in movies. Alcoholic products were present in 49% of PG-13 and 25% of PG top 100 grossing movies from 1996 to 2004 (Tickle et al., 2009). Smoking was detected in 43% of the top box office PG-13 movies released in the United States between 2002 and 2010 (Glantz & Polansky, 2011). Firearms appeared in 81% of the top PG-13 and 78% of top R-rated US movies between 1995 and 2004 (Binswanger & Cowan, 2009). There are also several studies that report the number of brands of risky products in movies. For example, content analysis of the top 250 U.S. box office movies from 1988 to 1997 revealed that 28% of movies contained tobacco brands (Sargent et al., 2001). Branded alcohol can be found in 52% of the top 100 U.S. movies from 1998 to 2002 (Dal Cin et al., 2008).

Exposure to risky products in movies has been found to affect the behaviour and attitudes of consumers:

- Smoking scenes in movies increase the chances for the initiation of smoking among adolescents (Morgenstern et al., 2011).
- Youngsters express more positive attitudes toward smoking after being exposed to smoking in movies (Sargent et al., 2002).
- University students indicate greater willingness to become friends with smokers after observing smoking characters (Gibson & Maurer, 2000).
- Adolescents are 28% more likely to start drinking and have a 20% greater chance of becoming binge drinkers as a result of watching drinking scenes in movies (Stoolmiller et al., 2012).
- Young adults consume alcohol in greater amounts after observing characters in a film drinking (Koordeman et al., 2011).
- Alcohol abusers are less confident in their ability to resist binge drinking after viewing programmes featuring alcohol (Sobell et al., 1993).

- Exposure to weapon-related words and pictures increases acceptability of aggressive behaviour among university students (Anderson et al., 1998).

The studies listed above did not specify whether the effects of exposure to risky products were linked to branded or unbranded product placements, or indeed if all of these products were deliberately placed with manipulative intent. Highlighting “a particular brand, rather than a product type” is a defining feature of product placement (Karrh, 1998, p.32). According to this definition, unbranded risky products in programmes cannot be referred to as product placements. The absence of brands, however, does not preclude these products from affecting consumers in a manner similar to branded placements (Lee, Taylor & McGetrick, 2004). Except Lee’s et al. (2004) study, effects of the exposure to unbranded products in movies have remained unexamined in the literature on product placement. In the present thesis, those unbranded risky products that appear in movies for persuasive purposes are considered as one of the manifestations of product placement.

Some evidence suggests that sellers of risky products are aware of the benefits of unbranded exposure. In the U.S., cigarette consumption decreased by half between 1950 and 2004 (CDC, 2006). One would expect this to be reflected in a lower number of smoking scenes in the mass media; however, the number of smoking incidents per hour in U.S. movies in the early 2000s has returned to the level of the 1950s (Glantz, Kacirk & McCulloch, 2004). The difference can be at least partially explained by the deliberate insertion of smoking scenes into some movies. These insertions primarily benefit the three companies that sell two-thirds of the tobacco products manufactured globally (Van Liemt, 2002). Each of these manufacturers benefits from favourable portrayals of smoking proportionately to its market share. In such cases, promotion of particular brands can be sacrificed in favour of showing more smoking scenes that promote the entire tobacco market.

Consumption of tobacco products can be glamorised without reference to brands. Showing someone with a fuming cigar sends a message about the high social status of the smoker (Shields et al., 1999). For example, the character Cypher in the 1999 film *The Matrix* dreams about cigars in general. He regards cigars as an attribute of the “good life” (Mekemson & Glantz, 2002, p. i88). Female characters use smoking to control their emotions, to manifest their sex appeal, to control body weight and to enhance their self-image (Escamilla, Cradock & Kawachi, 2000).

Alcohol products are more socially acceptable than tobacco (Everett, Schnuth & Tribble, 1998). This makes it easier for practitioners to place labelled bottles in movies. The appearance of unbranded alcohol in movies may promote alcohol consumption in general, but it is very unlikely that alcohol sellers support such exposures. Nevertheless, such promotion is possible. Despite the absence of visible brands of rum in the movie *The Rum Diary*, the organization “Rums of Puerto Rico” advertised San Juan as the “Rum Capital of the World” with the help of the film (Sauer, 2011).

Most firearms do not have visible labels in the same way that liquor bottles or cigarette packs have visible branding. This makes branded placements more difficult to execute. A character can either mention the model of a particular gun (e.g., the .44 Magnum in the 1971 film *Dirty Harry*) or a viewer must recognise the gun thanks to its distinctive look. The placement of firearms may affect any viewer, but only viewers in countries with no restrictions on the sale and possession of guns are able to legally purchase a gun they have been predisposed to by being shown it in a movie.

Studies of smoking and drinking in movies revealed that people can be predisposed toward risky products even without being exposed to specific brand names. Awareness of these effects is low even among parents, who were found to underestimate the impact of the glamorised movie portrayal of smoking and drinking on their children’s attitudes and behaviour (Longacre et al., 2009). The health effects of risky products, low awareness of effects produced by their appearance in movies and high susceptibility to these effects among vulnerable categories of consumers require certain public policy interventions. The extant regulations on product placement in general and possible interventions for the regulation of the placement of risky products will be discussed in the next section.

2.3 Regulations on the Products Appearing in Non-Commercial Programmes for Commercial Purposes

The deliberate placement of branded products in non-commercial programmes is regulated in many countries. The level of restrictiveness of these regulations varies. European Union broadcasters are required to inform viewers about the use of product placement before and after programmes, as well as at the end of commercial breaks (AVMS directive, 2007). No product placements can appear in news programmes, documentaries or children’s shows

(Valcke & Lievens, 2010). In practice, each of the E.U. countries implements these product placement laws slightly differently. German public broadcasters have to identify each product placement with the logo “P” for three seconds and accompany it with the text “contains product placement” (Katsirea, 2010). French and Belgian broadcasters use warning logos for product placement only before and after programmes (Angelopoulos, 2010). The use of product placement is not controlled in Canadian broadcasting (Ginosar & Levi-Faur, 2010). Here in New Zealand, the Broadcasting Standards Authority prohibits broadcast of “premeditated staging of athletes holding packaged liquor products for television” (NZ Ministry of Health, 2006, p.10); however, the placement of other products remains largely unregulated in New Zealand (Hudson & Hudson, 2006). American broadcasters are legally bound to disclose all paid placements after programmes, while the placement of donated products is not regulated (Lee, 2008). Movies re-broadcast on television are regulated by the same provisions in the U.S. (FCC, 2008). Product placement in films produced for theatrical release is not covered by any regulation in the U.S. (Strain, 2009).

The placement of each category of risky products is regulated differently. Many countries control the appearance of drugs in movies. For instance, U.S. audiences under the age of 13 are not supposed to see a movie if it shows the use of drugs (MPAA, 2012). At the same time, the placement of alcohol, tobacco and firearms in movies remains largely unregulated (Thompson & Yokota, 2001). There are some exceptions which discourage, but do not outlaw paid placements. In 1989, the U.S. cigarette companies signed a voluntary agreement to stop paying for the placement of their products in movies (Shields et al., 1999). A similar agreement was also adopted by American cigar manufacturers. These agreements, however, do not stipulate a ban on the use of tobacco and its paraphernalia provided for free (Mekemson & Glantz, 2002).

Appearances of risky products in movies can be regulated with different policy interventions. Some countries have adopted a ban on smoking scenes in movies. In Thailand, the prohibition of all smoking scenes and placements of tobacco brands is accomplished by pixelization (Chapman 2008). India introduced a ban on smoking in television shows and movies in 2005, but widespread corruption has made the ban ineffective (Arora & Sharma, 2011). An outright ban may be too radical to be applied in those countries where works of art, including movies, are under the protection of freedom

of speech laws (Chapman 2008). Special classificatory ratings could be another, less restrictive measure, but with the introduction of such classification, even a minor incident of drinking or smoking would result in a film being classified as suitable for adults only (Chapman & Davis, 1997). Restricting alcohol, tobacco and firearms to movies with certain ratings would also make it necessary to regulate the scenes with other objectionable activities, like consumption of fast food or reckless driving. This would likely result in the overregulation of the movie industry.

The placement of risky products can be regulated by less rigid measures. Practitioners suggest that consumer education is preferable to the introduction of new restrictions on product placement (FCC, 2008). Some parents agree with practitioners and have shown a preference for knowing the context in which alcohol and tobacco are portrayed rather than have a mandatory R-rating placed on all films with drinking or smoking scenes (Longacre et al., 2009). One of the preferred ways of warning consumers is the use of a disclosure advising viewers of smoking and drinking scenes.

In practice, there have been only a few disclosures that have informed viewers about risky products in movies. The closing credits of the James Bond film *Licence to Kill* (1989) contained a message against smoking:

As tobacco products are used in this film, the Producers wish to remind the audience of the Surgeon's General warning: "Smoking causes lung cancer, heart diseases, emphysema, and may complicate pregnancy" (Lehu, 2007, p.131).

The warning revealed only the placement of tobacco products, but the movie also contained the placements of such products as *Cutty Sark* scotch whiskey, *Stolichnaya* vodka, *Budweiser* and *Carlsberg* beers and the *Walther P5* handgun (Trivia for *Licence to Kill*, 2010). In the early 1990s, the Center for the Study of Commercialism unsuccessfully lobbied for the introduction of the following disclaimer about the paid nature of product placements:

The motion picture you are about to see contains paid advertisements for the following products and companies (Segrave, 2004, p.194).

The advocacy group suggested that such a disclosure would diminish the impact of persuasive messages integrated in the communication. Their concerns with the practice of

product placement may be groundless taking into account the fact that many consumers are already aware of the persuasive intent behind the placement of branded products in movies (DeLorme & Reid, 1999). Consumers should also be knowledgeable of the health effects of risky products thanks to product warnings and public service campaigns. Reminders of either of these facts in a disclosure would be largely meaningless because people tend to ignore information they are already familiar with (Stewart & Martin, 2004). The effects of the exposure to unbranded risky products, however, are largely unknown to consumers (Longacre et al., 2009).

Conclusion

To date, there is no consensus on whether consumers should be informed about the products appearing in editorial or entertainment content for persuasive purposes. Advocacy groups insist on the disclosure of product placements because they believe that consumers will be subconsciously predisposed towards the placed products. Practitioners claim that consumers are well aware of the practice of product placement and need no further information about it. To the best of the author's knowledge, no evidence is available on whether consumers are supportive of the disclosure of product placements. It has been found, nevertheless, that consumers have positive or indifferent attitudes towards product placement in general, but are more cautious about the placement of such products as alcohol and tobacco. This suggests that some consumers may support the disclosure of the placement of products with adverse health effects.

The disclosure of the placement of risky products could conceivably have different wordings, but all of them should express the same message: a warning that unbranded alcohol and tobacco products appear in a film with the intent to influence the audience. Discovering how consumers process the placement of risky products in the presence of such a disclosure is the major purpose of the present research. Some of the possible cognitive and affective responses to product placements in the presence of the disclosure will be hypothesised in the next chapter.

Chapter 3: Effects of the Disclosure of Persuasive Intent on Memory and Persuasion: Attributes of Effective Disclosure

The primary objective of information disclosure is to better inform the consumer (Stewart & Martin, 2004). Studies have shown that consumers will consider new information and decide whether or not to use it. They can disregard the information because they lack the ability to comprehend it or because it has no importance to them personally (Stewart & Martin, 2004). Conversely, consumers may attend to the information because they are unfamiliar with it and/or find it valuable.

An individual's processing of information disclosures may lead to different outcomes, including an increase in awareness of specific information about a product, a change of attitudes toward a product, and a change of behaviour with respect to a product (Wilkie, 1985).

The disclosure of the persuasive intent (DPI) behind the placement of risky products in movies may result in similar outcomes, but only if consumers attend to it. Consumers can be motivated to attend to the DPI by such factors as the quality of the message argument, the importance of the message topic to the message recipient, the modality of the message delivery, the issue-relevant knowledge of the message recipient and the forewarning of persuasive intent (Petty & Wegener, 1998).

This chapter will discuss how the DPI, as well as other factors may affect cognitive responses and persuasion. Reviewing the existing research on these topics leads to the development of hypotheses predicting the impact of this study's DPI on the processing of risky products in movies. The model for the thesis experiment is another outcome of the literature review. This chapter concludes with a discussion of the factors contributing to the effectiveness of the disclosure.

3.1 Cognitive Responses to Persuasion: Hypotheses on Recall and Recognition of Placements Caused by the Disclosure

Research has shown that the generally low awareness of the persuasive effects of smoking and drinking in movies (Longacre et al., 2009) can be diminished by advising consumers of these effects (Russell & Russell, 2008). Having processed this new information,

consumers may establish a certain pattern of responses to the placement of risky products. This formation of a response pattern would suggest that the DPI triggered the persuasion process because shaping the response patterns to a stimulus is attributed to persuasive undertakings (Miller, 1980). This would make the DPI a persuasive communication in its own right.

Exposure to persuasive communications evokes several cognitive responses. With little prior knowledge on the issue of persuasion, people analyse new information with the help of available knowledge (Petty, Ostrom & Brock, 1981). They examine the persuasive communication to decide whether they should accept or reject it (Greenwald, 1968). Such analysis leads to the memorisation of the message, even if a decision about its acceptance or rejection is not made (Hovland et al., 1953).

An individual's memory of an item is produced by its perceptual processing (Massaro, 1970). Perception relies on analysis of the item at different levels (Sutherland, 1968). Craik and Lockhart (1972) suggest that memory is tied to three levels of perceptual processing:

- Analysis of physical and sensory features of the item;
- Matching the item information against knowledge stored from past learning. This stage results in pattern recognition and the extraction of meaning;
- The final level is characterised by a more elaborate analysis of the item. It presumes the drawing of semantic-associative links between the subject's past experiences and the item's features.

There is no fixed progression from shallow to deep levels of analysis; processing unfolds in both a stimulus-driven, bottom-up direction and a concept-driven, top-down direction (Craik, 2002). Thus, information about the persuasive intent behind smoking and drinking in movies may initiate analysis at all levels of perception. Previous research would suggest that the DPI would be processed at a sensory level because this type of analysis is carried out on all incoming signals (Craik, 2002). Further, it can be predicted that people would process sensory features of the DPI (e.g. the pitch and volume of a voice-over), even if they do not consider the message consciously. By reading the DPI, people need to recognise words, assess their meaning, match them with a certain linguistic pattern and analyse them in terms of the preceding context (Beck, 1986). As a minimum, this

processing would result in the analysis at the level of pattern recognition. There are several factors that may activate the deeper, semantic analysis of the DPI. One of them is the novelty of the information about the effects of smoking and drinking scenes. People may find this information contradictory to their beliefs about risky product in movies. The development of such a position would require conscious elaboration because counterarguments are only formed through a thorough analysis of persuasive messages (Petty & Cacioppo, 1977). Certain members of an audience may notice that unbranded, rather than branded, products are placed with persuasive intent. Such analysis would also require considerable elaboration on the part of the audience.

Perceptual analyses lead to the formation of memory traces (Morton, Hammersley, & Bekerian, 1985). The persistence of memory traces is determined by the depth of perceptual analysis; more elaborate analysis produces stronger traces (Craik & Lockhart, 1972). The DPI may produce memory traces of varying persistence. Only a few people will retain the entire content of the DPI, though many may remember such words as alcohol, tobacco and persuasion. These words have more chance to be stored in the memory because they are essential for understanding the meaning of the DPI.

The DPI is predicted to induce people to pay attention to smoking and drinking scenes without an overt instruction to do so. This type of orienting task is a prerequisite for incidental learning. It occurs when people are directed to the learning task by instructions that do not specify what should be learnt (McLaughlin, 1965). Experiments on the incidental learning of sentences have revealed that subjects demonstrate memory improvement for separate words of a sentence after being instructed to process the sentence semantically (Rosenberg & Schiller, 1971). The DPI may produce similar effects if it is processed semantically. Forewarned viewers should retrieve key words of the DPI when they observe retrieval cues or the placement of alcohol and tobacco products. Noticing these retrieval cues in the film presumes their greater scrutiny in comparison with the rest of incoming information. In turn, more elaborate encoding improves potential for later retrieval (Craik, 2002). Thereby, the DPI may not only draw attention to placements of risky products, but also improve their retrieval amongst the experiment's subjects.

Retrieval of semantically encoded information is measured with tests of recall and recognition (Craik, 2002). The predicted improvement in the memory of placements can also be measured with recall and recognition tests. Procedures for measuring recall and

recognition differ. Recall presumes unaided reconstruction of previously acquired information, while recognition requires selection of an item from among a set of distracting stimuli (Bettman, 1979). Recall is based on a search of prospective candidates for recall through memory and a subsequent selection of one of them (Anderson & Bower, 1972). Recognition bypasses the stage of memory search; it requires only the selection of an item (Lynch & Srull, 1982). This feature of recognition makes it more sensitive than recall in detecting memory traces (Singh, Rothschild & Churchill, 1988).

Recall improves when people associate or group together the items to be remembered (Buschke, 1976). The DPI used in this experiment is designed to focus the attention of viewers on alcohol and tobacco. It induces them to discriminate these products from other products appearing in the film being shown. This discrimination of a group of products should facilitate their recall. From this, the following can be predicted:

H1a: The disclosure will improve recall the placement of unbranded risky products among the experimental group.

H1b: The disclosure will improve recall the placement of branded risky products among the experimental group.

Recall of unbranded risky products is predicted to improve with the addition of the DPI because the disclosure will refer to alcohol and tobacco products, though without specifying particular brands. Recall of unbranded risky products is likely to become a basis for recall of brands of risky products. Brands exist, after all, for the purpose of making products distinct from other similar products; they are intentionally made to be memorable (Holt, 2004). Thus, brands should work as memory cues that magnify the strength of recall.

H1c: After exposure to the disclosure, the placement of branded risky products will be recalled more often by the experimental group than the placement of unbranded risky products.

Thanks to the DPI, recognition rates should also improve, but for reasons different from those facilitating recall. Kintsch (1970) found that people recognise rare words more frequently than common words. Bettman (1979) explained this by the fact that rare words are easier to discriminate from others. Similar to rare words, the new information of the

DPI should make the placement of risky products easier to discriminate among the placement of conventional goods.

H2a: The disclosure will improve recognition of the placement of unbranded risky products among the experimental group.

H2b: The disclosure will improve recognition of the placement of branded risky products among the experimental group.

Despite the lack of reference to brands in the DPI, the emphasis on persuasive intent may make people more attentive to brand placements across the board. As a result, recognition rates may improve, though the brand presence should affect performance in recognition to a lesser extent than in recall. As Bettman (1979) suggests, unusual items are easier to discriminate (recognise) from others, just like unusual words. The DPI is intended to induce people to perceive branded risky products as typical product placements, a phenomenon many of them are familiar with (DeLorme & Reid, 1999). Familiarity improves recall but has no impact on recognition (Bettman, 1979). Therefore, the experimental group is expected to have similar scores in recognition of branded and unbranded risky products.

H2c: The experimental group will recognise the placement of unbranded and branded risky products at the same level.

The sensory modality of incoming information is another factor which may produce different results in tests of recall and recognition. Although information presented in one modality can be stored in any other format (e.g. an auditory input can be visualised), there are separate stores for auditory and visual inputs (Penney, 1989). The separation of storage suggests that retrieval of auditory information should differ from retrieval of visual information. Processing of spoken words generally require more efforts than processing of images (Basil, 1994). In accordance with the theory of levels of processing (Craik & Lockhart, 1972), the more elaborate analysis required for the auditory input should correspondingly enhance the persistence of memory traces. The availability of memory traces is indispensable during the reconstruction of information from memory (Anderson & Bower, 1972). Therefore, recall of information should be facilitated by its auditory presentation. Recall of visual information has been found to be inferior to information presented verbally (Murdock & Walker, 1969). The difference in recall rates of inputs of

different modality may be further magnified by the reference to brands. This is likely to happen because brands differentiate the goods of one seller from another (Keller, 1993). Therefore, they may work as additional retrieval cues.

H3a: The experimental group will recall the placement of verbally presented brands of risky products more often than the placement of visually presented brands.

Krugman (1977) suggests that images can be stored in the memory without attributing words to corresponding memory traces. Such traces are easier to retrieve through tests of recognition since they do not rely on verbal cues as heavily as recall tests (du Plessis, 1994). Recognition memory does not require semantic processing (Basil, 1994). As a result, memory of images is remarkably high. In one well-known experiment, from a single exposure to 612 pictures, subjects were able to recognise 92 % of these pictures after a test delay of three days (Shepard, 1967). In accordance with these findings, it is plausible to suggest that the visual mode of presentation may produce greater recognition rates than the auditory mode.

H3b: The experimental group will recognise the placement of visually presented risky products more often than the placement of verbally mentioned products.

This hypothesis does not specify if risky products in the visual mode of presentation are branded. There is no need in a separate hypothesis for branded products since *H2c* predicts that branded and unbranded products will be recognised at the same level.

Other research has suggested that people stop attending to information if they find it meaningless (Beauchamp, 2004). Comprehension of information depends on understanding how its structural components interrelate (Baggett, 1989). Similar to textual information, comprehension of movies consists in tracking meaningful units, finding connections between these units and aligning them in a hierarchical order (Baggett, 1989). Thorndyke (1977) found that subjects tend to recall high-level organisational story elements rather than low-level details. Product placements can perform the role of organisational elements in a film's narrative. Russell (2002) refers to brands that significantly contribute to the story as 'high-plot' placements and notes that the central position of placements in the story facilitates their retrieval. The DPI, which calls attention to smoking and drinking scenes, may also facilitate recall of high plot placements of risky products.

H3c: The experimental group will recall high-plot placements of risky products more frequently than low-plot placements.

Besides modality and plot connection, there are other factors that can influence people's memory of products placed in a movie. Among them are the size and position of a product on the screen (Gupta & Lord, 1998), the duration of a placement and the presence of other products in the same shot (Bressoud, Lehu & Russell, 2010). These factors are referred to as prominence of a placement (Gupta & Lord, 1998). Although a prominent placement is not always prominent in terms of the plot, its salience makes it more likely to become a high plot placement. In relation to the present research, the factors which determine prominence will be used as criteria for defining the level of plot connection of placements.

The review of the extant literature on encoding, storage and retrieval of information resulted in the development of the above hypotheses predicting effects of the DPI on memory for the placement of risky products. As a persuasive communication in its own right, the disclosure may also engender certain effects on attitudes toward risky products. There are numerous factors influencing such development of attitudes (Petty & Wegener, 1998). Understanding these factors can help to anticipate when the disclosure is most likely to produce persuasive effects and I similarly drives the hypotheses that the present research will be investigating.

3.2 Affective Responses to Persuasion: Hypotheses on Attitude Change

Informing consumers of the persuasive intent behind smoking and drinking scenes is predicted to improve their ability to determine whether a certain scene tries to predispose them to consume or purchase risky products. Having been informed that some risky products appear in movies for promotional purposes, consumers may reconsider their perception of such appearances. Perception of an item may consist of not only descriptive, but also of some evaluative details. This evaluative aspect of perception, our like or dislike of something, is referred to as *attitude* (Shrigley, Koballa & Simpson, 1988).

The formation of attitudes is referred to as attitude change (Petty et al., 1993) or persuasion (Petty, Cacioppo & Goldman, 1981). Although the DPI does not advocate a particular attitude toward risky products in movies, consumers may change their attitudes in the light

of this new information. Attitude change presumes the modification of an initial attitude from one value to another (Petty & Wegener, 1998). The reported lack of awareness of the impact of glamorised movie portrayals of alcohol and tobacco (Longacre et al., 2009) suggests that consumers may have no attitude toward the placement of unbranded risky products. The DPI is predicted to help to form these attitudes.

People may attend to the arguments of the DPI and change their attitude after some deliberation. Conversely, they may skip or ignore the DPI and form an attitude toward placements on the basis of their pre-existing attitudes instead. Affective responses to the placement of risky products can be also triggered by other mechanisms, but all of them would be in line with central or peripheral routes of persuasion, as conceptualised in the elaboration likelihood model (Petty & Cacioppo, 1981), outlined in the previous chapter. The central route of elaborate processing of the DPI and, consequently, of the placement of risky products may result in the formation of persistent attitudes towards both the DPI and the placement. The peripheral route of less scrupulous processing of the DPI may produce more volatile changes in attitudes toward the DPI and the placement of risky products, or simply produce no changes at all. The central and peripheral processes are not discrete. They can co-occur, though the impact of either process on attitude change depends on the impact of different factors in different situations (Petty & Wegener, 1998).

The factors that determine whether people change their attitudes along central or peripheral routes of persuasion are grouped along four classes of variables:

- Source variables relate to the credibility, attractiveness and power of the *presentation* of the persuasive communication.
- Message variables relate to the *form* of communication itself, including its topic, position, style and organization.
- Recipient variables relate to the *receivers* of the persuasive communication in terms of demographics, personality, skills, issue-relevant knowledge and accessibility of attitudes toward an attitude object.
- Context variables relate to the *settings* in which the persuasive communication is presented. Among them are distraction (or lack thereof), modality of presentation, repetition of the message and the presence of forewarnings (Petty & Wegener, 1998).

These variables of persuasion do not act in isolation. Attitude change typically occurs due to the compound effect of several factors (Petty & Wegener, 1998). Although the DPI is just one of these factors, it is predicted to influence attitudes toward risky products to a greater extent than other factors. The DPI in this experiment reveals information unfamiliar to many consumers (Longacre et al., 2009) and unfamiliar arguments have been found to generate more affective responses than familiar arguments (Burnstein & Vinokur, 1975). Disclosing the information about risky products *before* a movie should also make the DPI's impact more prominent because a warning preceding a communication has been shown to effectively inhibit persuasion (Kiesler & Kiesler, 1964).

Attitudes can be changed in two directions. Moving in the direction of the person's initial attitude leads to the polarisation or strengthening of attitudes. Depolarisation occurs when people move in the direction of neutrality (Petty & Wegener, 1998).

The DPI does not explicitly state desired direction of attitude change. It advises people of the content and the persuasive intent of the upcoming communication. These two types of forewarning influence attitudes in a different manner (Papageorgis, 1968).

Forewarnings of persuasive intent typically reduce or eliminate the impact of persuasive communications; however, forewarnings of message topics generate either acquiescence or resistance to subsequent persuasive appeals (Cialdini & Petty, 1981). According to the persuasion knowledge model (Friestad & Wright, 1994), people develop special tactics for dealing with persuasive communications. Revealing the persuasive intent should almost automatically initiate the use of these tactics.

Forewarnings about message topics are more subtle. These do not warn of an attempt at the persuasion, but merely provide advance warning about the presence of an upcoming communication (Papageorgis, 1968). In order to use this warning as a cue for the activation of persuasion knowledge, one would need to process this forewarning more deeply than forewarning of the persuasive intent. It requires, in other words, a further step. This higher demand for cognitive processing may explain why forewarnings of message content do not induce resistance to persuasion as frequently as forewarnings about persuasive intent.

The DPI for the present research contains both a forewarning of the persuasive intent (the promotional purposes of the placement) and a forewarning of message intent (the presence of alcohol and tobacco products in movies). This may reduce the impact of persuasive

communication more effectively than when only one forewarning is used. Having realised that they are not only influenced without their awareness but also predisposed to products with adverse health effects, people may become less accepting of risky product in movies.

H4a: The disclosure will decrease acceptability of the placement of unbranded risky products in movies among the experimental group.

Some (perhaps even most) people consider persuasive appeals as a potential threat to freedom (Burgoon et al., 2002). Consequently, they may try to re-establish their freedom by embracing the attitude threatened by persuasion (Brehm, 1966). The DPI regarding risky products in movies may trigger a similar response. By revealing the persuasive intent, it may make viewers disillusioned with the glamorous portrayal of smoking and drinking, and, thereby, inhibit attitude change. The presence of brands should only increase the eagerness to reject the persuasive communication. Although the DPI does not refer to particular brands, viewers may also attribute the persuasive intent to branded products. This is likely to happen because many consumers know that branding intends to shape their desires and actions (Holt, 2002).

H4b: The disclosure will decrease acceptability of the placement of branded risky products among the experimental group.

Consumers are more favourable toward those brands that allow them to build self-identity (Holt, 2002); however, such things are also subject to larger cultural forces. The attractiveness of having, for example, a “Camel personality” (White, 1959, p. 13) has substantially decreased due to the growing awareness of the negative health effects of smoking. Without their former glamour, brands of risky products should be less welcome in movies, especially if viewers realise that the placement of brands is intended to persuade them to be like a character consuming these brands.

H4c: Among the experimental group, the placement of branded risky products will be less acceptable than the placement of unbranded risky products in the presence of the disclosure.

Forewarnings motivate people to consider their own positions more fully (Petty & Cacioppo, 1977). This motivation is higher when the issue raised by the forewarning is important on a personal level (Petty & Wegener, 1998). People with a different degree of

involvement in a given issue respond differently to persuasive communications after exposure to forewarnings about persuasive intent and message content (Apsler & Sears, 1968). Forewarnings of persuasive intent produce greater inhibition for issues of high importance (Petty & Cacioppo, 1979). Forewarnings of message content inhibit attitude change under high involvement conditions and facilitate changes under low involvement (Apsler & Sears, 1968).

The topic's importance is usually confounded by the message recipient's knowledge, attitude extremity and commitment (Petty & Wegener, 1998). Viewers who consume risky products on a regular basis should know more about these products, be more committed (or even addicted) to them and, therefore, should have more salient attitudes toward them than non-consumers. Valence of these attitudes is defined by the perceived benefits of the consumption of risky products. Personal sensory experience with risky products accounts for more favourable attitudes towards smoking among smokers (Sherman et al., 2003) and more liberal attitudes towards alcohol among drinkers (Perkins & Berkowitz, 1986).

Issue involvement influences the extent of information processing (Petty & Wegener, 1998). Cognitive elaboration, in turn, can strengthen attitudes toward an issue. When asked about smoking, smokers offer favourable attitudes toward it so that these attitudes are consistent with their smoking behaviour (Swanson, Swanson & Greenwald, 2001). The DPI that is the subject of the current research may initiate similar bolstering of attitudes toward smoking and drinking scenes among people who regularly consume risky products.

Furthermore, people tend to embrace attitudes and behaviour threatened by the persuasive communication (Brehm, 1966). Some smokers and drinkers may consider the DPI as another regulation that stigmatises their behaviour. Perceived in this way, the DPI may make consumers of risky products want to re-establish their freedom to watch movies without irritating reminders about their addictions. This disapproval of the DPI is likely to be reflected in attitudes toward the placement of risky products.

H5a¹: Forewarned by the disclosure, smokers will find the placement of unbranded cigarettes more acceptable than non-smokers.

H5a²: Forewarned by the disclosure, drinkers will find the placement of unbranded alcohol products more acceptable than non-drinkers.

Smokers and drinkers, however, may have ambivalent attitudes about the products they consume. Presumably, if they keep consuming them, smokers and drinkers must find some benefits in risky products. On the other hand, they may feel that consumption of risky products negatively affects their health, involves considerable monetary cost and alienates them from non-consumers (Sherman et al., 2003). Such ambivalent attitudes are reflected in different perceptions of sensory and economic/social aspects of risky product consumption. Sherman et al. (2003) found that smokers react positively towards pictures showing the process of smoking and negatively toward pictures showing brands and packaging of cigarettes. Primed with the DPI, consumers of risky products may become similarly less favourable toward the placement of brands of risky products than the appearance of unbranded risky products.

H5b¹: Forewarned by the disclosure, smokers will find the placement of brands of cigarettes less acceptable than the placement of unbranded cigarettes.

H5b²: Forewarned by the disclosure, drinkers will find the placement of brands of alcohol less acceptable than the placement of unbranded alcohol products.

Every message, including the present disclosure, has a source. Information disclosures are usually introduced by governments when market mechanisms fail to ensure proper advising of consumers on product characteristics (Stewart & Martin, 2004). Even without information about its source, the DPI of the placement of risky products may also be attributed to government regulations. Some viewers may be more prone to draw such a conclusion than others.

Among these viewers are likely to be people who download movies via file sharing platforms. In several countries, copyright holders have lobbied for the introduction of legal sanctions against the downloading of copyrighted material through file-sharing platforms (van Eijk, Rutten, & Poort, 2010). File-sharers are aware of these sanctions and weigh the possibility of being caught for their infringement (Al-Rafee & Cronan, 2006). For similar reasons, they may be suspicious of the DPI concerning risky products. Although file-sharers would not find new restrictions in the DPI, they may consider it as another unwelcome assertion of government or commercial control.

If they indeed interpret the DPI as a government-initiated intervention, file-sharers may develop certain affective responses toward its message which is likely to happen because

qualities of the source of a message have been shown to influence attitude change (Petty & Wegener, 1998). Associating the DPI with regulatory action may make its acceptance less likely. If file-sharers decide to reject the DPI, they may manifest this in attitudes toward the issue it warns about. The DPI would tacitly imply that the placement of risky products is a negative practice. In accordance with Brehm's (1966) theory of psychological reactance, file-sharers may change their attitudes in the direction away from the implicitly advocated position.

H6a: Forewarned by the disclosure, file-sharers will become more accepting of the placement of unbranded risky products.

DeLorme and Reid (1999) found that some consumers associate branded products in movies with their promotion by product sellers. File-sharers have strong feelings against sellers of entertainment products because they think that corporations charge excessive prices (Blythe & Wright, 2008). The anti-corporate attitudes of file-sharers could make them dislike the brands promoted by corporations in movies. However, such affective response would require considerable elaboration, which is hardly possible in the short span between exposure to the DPI and the film itself. For this reason, file-sharers are predicted to perceive the placement of brands of risky products similarly to the placement of unbranded products.

H6b: Forewarned by the disclosure, file-sharers will become more accepting of the placement of brands of risky products.

The quality of a message's argument is another factor that defines people's evaluation of an attitude object (Petty & Wegener, 1998). The argument of the DPI may have some effect on attitudes toward placements if viewers find proof that risky products appear in a movie for promotional purposes. This is likely to happen if viewers infer that practitioners try to persuade them in an unfair manner.

Perceptions of unfairness are based on social comparison of oneself to others involved in the same situation (Adams, 1965). This comparison consists of considering personal benefits in relation to personal investments and then considering another person's benefits in relation to his/her investments (Campbell, 1995). Unfairness or inequity occurs when a person perceives that his/her ratio of benefits to investments is not equal to the ratio of others' (Pritchard, 1969).

Many viewers are not aware that the appearance of some risky products in movies can predispose them toward these products (Longacre et al., 2009), and, thereby, may benefit sellers of risky products. The DPI may thus make viewers realise that risky products appear in movies not for the story's verisimilitude, but for the sellers' benefit. Awareness of this may lead viewers to consider the placement of risky products manipulative.

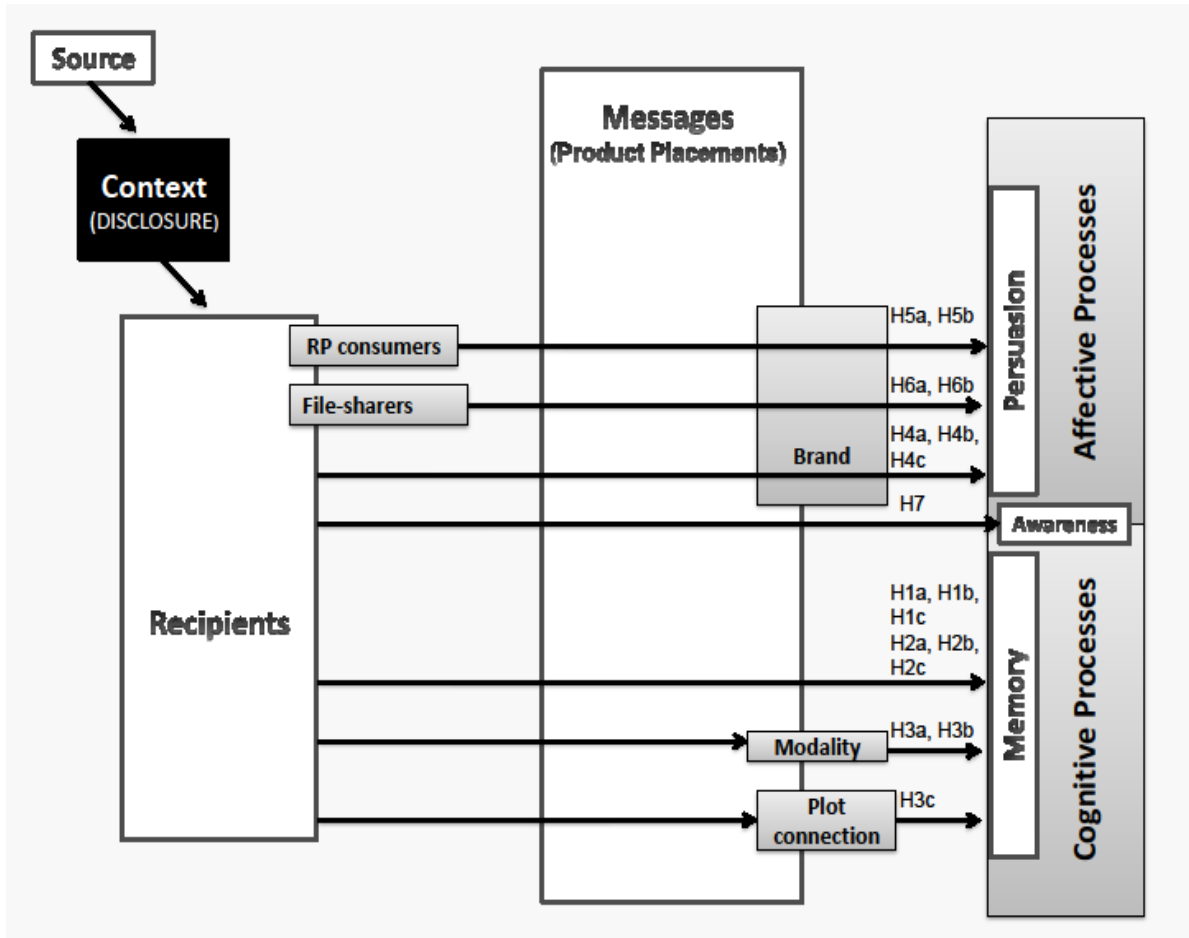
H7: Forewarned by the disclosure, subjects will become more aware of the manipulative intent of risky products appearing in a movie.

Testing *H7* may also reveal whether the DPI made subjects of the experimental group aware of the experiment's purpose. This awareness or demand characteristic can lead subjects to respond in a way they think a researcher wants or in a socially desirable manner (Patzer, 1996). Therefore, finding significant difference between control and experimental groups would indicate that the overall results were affected by demand characteristics.

Most variables discussed in relation to attitude change presume the subject's attention to the DPI as well as their comprehension and subsequent acceptance or rejection of its message. The comprehensibility of arguments in a persuasive communication influences acceptance: the lower the comprehension of an argument, the lower the degree of attitude change (Eagly, 1974). Comprehension of the information itself can also facilitate its retention. Thus, research has shown that people remembered pictures better if they understood their meaning (Bower, Karlin & Dueck, 1975). The dependence of attitudes and memory on comprehension of an attitude/memory object suggests a link between memory and attitude change. However, correlations between memory of an object and attitudes toward it are often not significant (Petty & Wegener, 1998). For this reason, none of memory related hypotheses (*H1*, *H2* and *H3*) will be considered in terms of persuasion.

Overall, effects of the DPI on memory and attitudes toward the placement of risky products can be presented in the following form:

Figure 1: Model of Processing the Placement of Risky Products in the Presence of DPI



The black rectangle in the model signifies the DPI. As indicated, the DPI is predicted to play the main role in affecting dependent variables. Other independent variables may either facilitate or reduce the impact of the DPI. The central position of the DPI necessitates special care in its wording and presentation. The next section discusses the factors that may contribute, either positively or negatively to the effectiveness of the disclosure.

3.3 The Disclosure's Effectiveness

Information disclosures are used for clarifying, deflating and reducing the misleading impressions from advertising claims and other cues in the marketplace (Andrews, 2011). Effectively encoding of a disclosure is a prerequisite for the disclosure delivering its message to consumers (Johar & Simmons, 2000). To encode the information, people need

to have adequate processing capacity (Petty & Cacioppo, 1986). The human perceptual system has a limited processing capacity (Broadbent, 1957) and this limited capacity suggests that people may abstain from processing a disclosure, or may simply be unable to process poorly formulated disclosure information. A person's motivation and ability to understand a disclosure can be enhanced if it complies with certain standard in terms of content (wording and key words) and structure (type size, colour, positioning and modality) of the message (Hoy & Stankey, 1993).

In 1970, the Federal Trade Commission in the United States stipulated structural dimensions for information disclosures (Hoy & Andrews, 2004). These guidelines for structural parameters of televised advertising disclosures are taken as clear and conspicuous standards (Stewart & Martin, 2004). Some of these standards can also be applied to the disclosure of risky products in movies:

- 1) The disclosure should be presented simultaneously in audio and video formats (FTC, 1979).

Presenting the same message simultaneously in two modalities was found to produce greater elaboration compared to a single modality of presentation (Paivio, 1983). If a print disclosure is combined with a voice-over, comprehension rates of the disclosure almost double (Murray, Manrai & Manrai, 1993). In an earlier study that is directly relevant to the current research, alcoholic beverage warnings produced the best knowledge and memory scores when they were presented in both visual and audio modalities (Barlow & Wogalter, 1993).

- 2) The video disclosure should be of sufficient size to be visible on any screen (FTC, 1979).

Small type reduces comprehension of the message in television commercials (Murray, et al., 1993). Letters of the message should be bigger than 1/25 of the screen height to ensure its comprehension (Hoy & Stankey, 1993).

- 3) The colour of the type should contrast sufficiently with the background colour. The background should be of a single colour (FTC, 1979).

The contrast of a message's text defines its legibility and, consequently, its ability to grab consumers' attention (Hoy & Andrews, 2004). Black lettering produces the most contrast

on a white background, while white lettering has maximum contrast on a black background (Moriarty & Duncan, 1989).

4) The disclosure should appear on the screen for a long enough period to give consumers sufficient time to read it in its entirety (FTC, 1979).

Increasing the speed of the presentation of a visual disclosure decreases comprehension rates (Murray et al., 1993). The conditions for reading in a movie theatre can be far from optimum; therefore, viewers need a slower presentation of the disclosure to ensure its comprehension. According to the FTC requirements, a televised advertising disclosure should remain on the screen for at least five seconds (Hoy & Stankey, 1993).

5) The disclosure should be presented immediately after the advertising claim to which it refers (FTC, 1979).

This can be justified by the nature of televised advertisements. They have short duration and typically contain only one message. This positioning allows viewers to connect the disclosure's message with a specific and readily identifiable advertising claim. In contrast, the closing titles of movies contain a considerable amount of textual information presented over several minutes. Most viewers lack the motivation to distinguish disclosures amongst such a mass of information. Forewarnings are also preferable to post-warnings due to their greater effectiveness; indeed, Kiesler and Kiesler (1964) found that warnings of persuasive intent inhibit persuasion *only* when they precede the message.

The structural characteristics of the disclosure should not overshadow the importance of its wording. Any disclosure can be phrased in different ways and word choice affects a person's ability to comprehend warning information (Lepkowska-White & Parsons, 2001). Comprehension of the warning information determines whether consumers decide to comply with it or not (Rogers, 2000). This makes measures of comprehension the most critical criterion for determining the disclosure's effectiveness (Stewart & Martin, 2004).

Winston (2008) assessed several empirical studies on effectiveness of disclosure policies and concluded that they have not made consumers significantly better informed or safer from covert manipulation. Despite this conclusion about the ineffectiveness of disclosure policies, the DPI of the present study is predicted to affect consumers' perception of the placement of risky products. Analysis of the existing literature suggests that attending to

the DPI may trigger its processing along the central route of the elaboration likelihood model. This more elaborate processing usually leads to the memorisation of the disclosure's message and its subsequent acceptance or rejection. Being processed in such manner, the DPI is expected to facilitate retrieval of the placement of risky products observed in the film and to make viewers disillusioned with the glamorous portrayal of smoking and drinking.

This chapter has presented a wealth of details about the possible effects of the DPI on the experimental group's memory and attitudes toward product placement, which have led to the formulation of a number of hypotheses that the experiment will be testing. The development of the conceptual model of processing product placement in the presence of the DPI is a direct result of the review and discussion of the extant research into the factors that influence cognitive and affective responses to product placements. Moving on to focus on the experiment at hand, the next chapter discusses the methodology for testing comprehension of the DPI, as well as the memory and attitude change of the subjects in the experimental and control groups in terms of the experiment itself.

Chapter 4: Methodology

The disclosure of the persuasive intent (DPI) used in this study reveals information about risky products in the movie before the film itself is shown. It is predicted that the DPI will be the main factor in changing the audience's memory of and its attitudes toward the placement of risky products. These links between the DPI and changes in the processing of risky products by consumers can be characterised as a relationship of causality.

To infer causality, one needs to determine positively that (1) there are associations between the presumed cause and effect, (2) the cause precedes the effect, and (3) the relationship between the cause and effect is not spurious (Martilla & Carvey, 1975). The presence of these criteria in the relationship between the DPI and perception of the placement of risky products can be revealed through an experiment. Only research of the experimental design offers the ability to investigate causal relationships (Patzer, 1996).

The variable that causes the change is referred to as *independent* while the variable that undergoes changes is referred to as *dependent* (Cook & Campbell, 1979). Since it is predicted to cause changes in at least one other variable, the presence of the DPI of risky products is the independent variable in the context of the present study. The DPI is predicted to change recall, recognition and attitudes toward the placement of risky products. These responses to the DPI represent dependent variables. Because of this, and the research outlined in the previous chapter, meticulous attention must be paid to the development of the DPI. An audience's comprehension of a disclosure is one of the main factors in its effectiveness (Stewart & Martin, 2004). A discussion of the method for its measurement opens the chapter, followed by the presentation of methods for the measurement of the dependent variables.

4.1. Treatment Development: Methodology of the Pre-Test

Pre-testing of how the independent and dependent variables fit their referent construct can diminish the impact of confounding variables (Perdue & Summers, 1986). This is best achieved by careful explication of constructs so that definitions of the independent variable are clear and in conformity with public understandings of any words being used as a part of the variable (Cook & Campbell, 1979).

In the present research, the independent variable is also checked for its comprehensibility, which lessens the impact of unaccounted or unexpected variables. The check is conducted by testing comprehension of the DPI with the Meaning Identification Technique (MIT) developed by Marchant et al. (1988). This technique has been used almost exclusively for testing reading and listening comprehension of textual passages. Hancock et al. (2005) tested comprehension of warning labels with a test resembling the MIT. The specifics of the adjustment of the MIT for the purpose of testing comprehension of information disclosures is presented below.

Test Materials

Finding the most immediately and universally comprehensible wording of the DPI requires testing different wordings of the same message. These wordings can be developed by paraphrasing the DPI several times. The wordings of the DPI need to undergo certain alterations to be tested for their comprehension. In the present research, the DPI will be paraphrased four times.

The MIT requires the development of two types of test sentences for each sentence appearing in the test passage (Marchant et al., 1988). A *paraphrased* sentence is constructed by changing as many words as possible in the original sentence without altering its meaning (Royer et al., 1987). A *meaning change of paraphrased* sentence is developed by changing a couple of words in the paraphrased sentence to make its meaning differ from the original sentence (Marchant et al., 1988). The meaning should be changed in a very delicate manner given that subjects have no difficulty in detecting obvious changes of meaning. On the other hand, if the change is too subtle, only a few people will notice it. For this reason, the change of meaning should be neither too obvious nor too subtle (Royer, 2001).

The MIT is usually employed for testing passages of a certain length. Research has determined that the optimal passage is 12 sentences in length (Royer, 2001). In the current context, a DPI of 12 sentences would be too lengthy; ideally, the DPI would be composed of no more than two sentences. To achieve compliance with the MIT requirements regarding the passage length, additional sentences must be added to the two sentences of the DPI during the pre-test phase. These additional sentences should be combined with the

DPI in a meaningful way so that subjects interpret them as a single passage. The extra sentences, however, should not refer to risky products. The rest of the passage should be separable from the DPI so that the researcher is able to measure its comprehension independently. At the same time, the DPI should not be too conspicuous in the passage because it would allow subjects to guess the purpose of the research, which would likely negatively impact on the results. The conspicuousness of the DPI in the passage can be diminished by presenting additional sentences as standalone disclosures of the movie content. Provided that dummy disclosures also consist of one or two sentences, the entire passage should contain six disclosures. This makes the test passage conform to the recommended length. Dummy disclosures in the passage have only one design because of their supplementary role in the test. Combination of the DPI in its four designs with a set of dummy disclosures produces four versions of test materials employed for the selection of the most comprehensible DPI (all versions of test materials can be found in Appendix D, p.127).

The prepared test materials were tested with the Flesch Reading Ease Formula to ensure that the test passages would not be difficult for the target population to understand. The formula is selected because it is widely used and highly accurate (Chavkin, 1997). Mathematically, the formula is expressed in the following way (Flesch, 1948):

$$\text{R.E. (reading ease)} = 206.835 - 846wl \text{ (word length)} - 1.015sl \text{ (sentence length)}$$

The readability scores vary from 0 (very difficult) to 100 (easiest). In the current research, calculation of the passage readability was conducted with the help of Microsoft Word 2007. Tests found that the final test passage had an overall readability score of 61, which falls in the range of standard difficulty for the selected age group.

Interpretation of the MIT results

The MIT is used to determine whether or not a subject has correctly interpreted the meaning of a test passage. Responses of such dichotomous character can be analysed in a limited number of ways. One consists of calculating the percentage of correct answers and this percentage can in turn be interpreted as the level of message comprehension (Royer, 2001). However, this percentage reflects the level of comprehension only to a certain

extent. Performance in a comprehension test depends not only on a subject's ability to understand the message, but also on their motivation to pay attention to it. For example, subjects may intentionally respond wrongly or guess answers correctly without understanding the actual meaning of the messages (Marchant et al., 1988). The impact of such responses can be diminished if one employs a technique that analyses comprehension capabilities separately from decision-making considerations.

Royer et al. (1987) suggested that the Signal Detection Theory (SDT) is appropriate for this role. It can be adapted for the evaluation of performance in comprehension tests (Royer et al., 1987). The SDT is a theoretical framework that has been used in psychology for studying decision-making processes in situations of uncertainty (Wickens, 2002). Comprehension of the textual information also requires a decision on which of the possible interpretations of the text reflects its actual meaning. In terms of the MIT, there are two interpretation alternatives: a hit response (H), which indicates that people correctly identified the test sentences similar in the meaning to original sentences, or a false alarm response (FA), which shows that people selected the test sentences with different meaning than the original sentences (Marchant et al., 1988).

The relationship between H and FA over a series of trials can be presented graphically by the Receiver Operating Characteristic (ROC). The ROC is obtained by marking each trial's H or FA on a two-dimensional graph, with H plotted on the y-axis and FA on the x-axis (Leigh & Menon, 1986). By calculating the area A' under the ROC, one can define the index of sensitivity (Cradit, Tashchian & Hofacker, 1994). Sensitivity reflects the subject's ability to discriminate correct from incorrect responses (Singh & Churchill, 1986).

Macmillan and Kaplan (1985) suggest two possible ways for computing the index of sensitivity. One can either compute indices for each subject and then average those across the sample (averaging procedure), or one can calculate aggregate hits and false alarms across the sample and then find the index of these proportions (collapsing procedure).

The averaging procedure relies on computing area A' under the ROC graph with the following formula:

$$A' = \frac{1}{2} + \frac{(h - f)(1 + h - f)}{4 - h(1 - f)}$$

Here h is a hit rate, and f is a false-alarm rate (Cradit et al., 1994).

The collapsing procedure presumes modification of the above A' formula. Instead of hit (h) and false alarm responses (f) of individual subjects, the A' formula relies on the aggregate hit rate (h) for each wording of the DPI and overall false-alarm rate (f) for the entire study (Cradit et al., 1994). The position of the hit h and false alarm f variables in the A' formula remains unchanged.

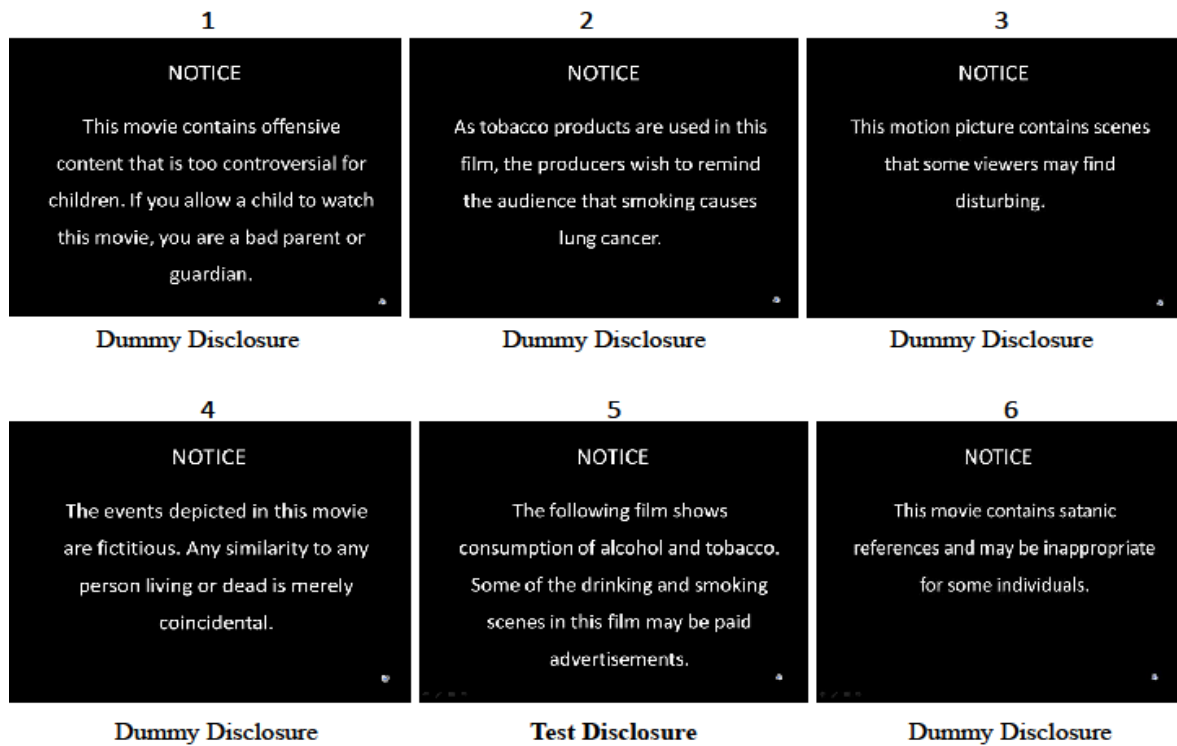
For both procedures, A' varies in the range from .5 to 1.0, in which .5 indicates the lack of ability to discriminate between alternative responses and 1.0 implies perfect discriminatory ability (Singh & Churchill, 1986). In terms of comprehension, the higher sensitivity indicates the higher level of comprehension because the subjects who understand the message naturally give more correct responses.

There is no criterion for the choice of a particular procedure for computing A' other than the researcher's considerations (Wickens, 2001). In the interests of achieving greater validity, the present study will utilise both procedures.

Procedure

For the pre-test, subjects were recruited from marketing related undergraduate courses in one of New Zealand's major universities. The pre-test was carried out during tutorial sessions in classrooms with a seating capacity of around twenty people. Attendance of tutorial sessions varied (from 6 to 19 subjects). Subjects were asked to read and sign a consent form (see Appendix A, p.112) and to refrain from looking at the questionnaire until requested to do so. Then the lights were turned off and test materials (Power Point slides, PPT) were presented to subjects. There was one disclosure per slide. Each slide was presented visually and orally for a sufficient amount of time to read and listen to the disclosure. Each group of subjects observed only one of four versions of test materials (all versions can be found in Appendix D, p.127). The version of test materials was selected randomly. One of the versions of test materials is presented in Figure 2.

Figure 2: Test Materials



After the end of the slides, the lights were turned on and subjects were asked to answer the questionnaire without access or reference to the test materials. Because comprehension results in construction of meaning representations of comprehended material in the memory (Kintsch, 1988), subjects were requested to select questionnaire sentences with the same meaning as the sentences on the slides. If subjects manage to construct representations, then they should be able to detect questionnaire sentences with the meaning similar to their memory of test sentences (Royer, 2001). Conversely, subjects who did not understand test sentences would have difficulty in determining which of questionnaire sentences should be marked with “yes” or “no” answers (Royer, 2001).

Subjects were asked to identify with a “yes” answer those questionnaire sentences (paraphrases) that corresponded in meaning to PPT sentences. Questionnaire sentences with a meaning different from the PPT sentences (meaning change of paraphrase) were to be marked “no” (Marchant et al., 1988). For example, the PPT sentence 3: “Notice: This motion picture contains scenes that some viewers may find disturbing” had two paraphrased versions in the questionnaire: (a) “Notice: Some scenes of this film may be confusing for some viewers”; (b) “Notice: Some scenes of this film may be upsetting for

some viewers”. The correct response would be “no” for sentence (a) and “yes” for sentence (b).

Sentences were arranged randomly in test materials, though in such a way so that paraphrased sentences referring to the last PPT sentence did not appear first in the questionnaire. This was done to prevent the subjects’ responding with the help of their short-term memory (Royer, 2001), which could skew the results (the questionnaire can be found in Appendix A, p.112). At the end of the test, the completed questionnaires were collected by the researcher. The subjects were thanked for their cooperation and freed to go on with their day.

4.2 Methodology of the Main Study

The pre-test was followed by the main study, which had an experimental design. This design allows the researcher to identify relationships between cause and effect with the most confidence (Kerlinger, 1973). The logic of the process seems simple on first glance: inferences about causal relationships are achieved by comparison of two groups (Cook & Campbell, 1979); the group exposed to the treatment is an experimental group and the performance of this group is compared with a control group consisting of subjects who do not receive the treatment (Patzner, 1996). Thus, if there are differences between groups, the researcher may infer that the independent variable was responsible for changes in the dependent variables (Perdue & Summers, 1986).

However, things are more complicated than this when it comes to conducting actual research. Variance of the dependent variable can be caused not only by independent but also confounding variables. Conducting experiments in a laboratory setting may minimise the impact of confounding variables. These settings allow researchers to manipulate only the studied variables, making it possible to identify causal links between variables with greater accuracy (Patzner, 1996). At the same time, exclusion of extraneous variables has a downside; the use of laboratory conditions may render findings that cannot be replicated or may not be relevant in real-life settings outside the laboratory (Hudson & Ozanne, 1988).

The strengths and weaknesses of laboratory settings are unlikely to affect the external validity of the present research because it is not intended to discover something which can

be generalised across populations. Rather, the present research aims at finding how the DPI affects the processing of the placement of risky products in a population of New Zealand university students.

Any differences in the composition of the control and experimental groups can undermine the internal validity of a study. If these two groups are different, conclusions about the treatment-caused change cannot be substantiated (Cook & Campbell, 1979). The random assignment of subjects to experimental and control groups makes the average subject of any group comparable to the average subject of another group, thereby allowing the researcher to infer causal relationships with greater confidence (Campbell & Stanley, 1963). In the present research, students were randomly assigned to tutorial streams by university staff. In addition, tutorial streams were randomly assigned to the treatment by the researcher. Thus, the current study can be characterised as an experiment.

Study design

Subjects in the experimental group observe the DPI, while subjects of the control group are not exposed to the treatment. Effects of the treatment are assessed by comparison of the measurements of dependent variables in the experimental and control groups. This type of research design is referred to as an ‘after-only with control experiment’ (Tull & Hawkins, 1984). It can be presented in the following way:

$$\begin{array}{ll} R \rightarrow (\text{Experimental group}) & X \rightarrow O_1 \\ R \rightarrow (\text{Control group}) & O_2 \end{array}$$

R means random assignment of subjects, X indicates exposure of subjects to the treatment, and O indicates measurement of dependent variables (Patzner, 1996).

Such a design allows the researcher to avoid testing effects or situations when the pre-measurement sensitises subjects to the extent that they become aware of the purpose of the experiment (Patzner, 1996). These effects are especially undesirable in the present study, where the pre-measurement of attitudes toward product placement would make some subjects to respond the experimental questions in what they perceive to be a socially desirable manner.

College students are more homogenous than nonstudents not only in terms of age and education but also in their responses to psychological stimuli (Peterson, 2001). The relative homogeneity of students can lessen the probability that the control and experimental groups are initially unequal in regards to the dependent variables. These advantages of the after-only with control design make it the strongest and most logical experimental design for the present study.

Subjects

The research context defines the choice of its subjects (Enis, Cox & Stafford, 1972). Since the placement of risky products in movies is deemed to affect the movie going public, subjects of the present research should be recruited among the typical audience for feature films. Similar to the United States (Karrh, 1998), the 15-34 age group spends the most on film and video in New Zealand (NZ Statistics, 2006). Around 30% of this age group are students of tertiary institutions (NZ Ministry of Education, 2010). This data suggests that appropriate experimental subjects can be recruited among students.

The propriety of using students as representatives for real-world demographic groups has been questioned by many authors (Peterson, 2001). There are sizable discrepancies between students and other subjects in terms of attitudes and persuasion (Ashton & Kramer, 1980). Students have been also found to have superior cognitive skills in comparison with some other demographic groups (Sears, 1986). Nevertheless, students can be valuable research subjects under certain conditions; indeed, the usefulness of student samples depends on the objectives of a given piece of research (Enis et al., 1972). If the purpose of a study is to generate universal principles, researchers should be cautious about using student samples (Peterson, 2001). The present research does not aim for such objectives; its intention is to test a theoretical model. Previous studies have found that if the research focus is on this more limited objective, the use of students as research subjects is justified (Calder, Phillips, & Tybout, 1981).

Subjects were recruited among students in a marketing -related course. Although it was an introductory course, some of its students were in the second or third year of their studies. As the course has no prerequisites, many students were majoring in fields or disciplines other than marketing. These features of the course contributed to the diversification of

subjects, thereby making the sample more representative of the general university population. Nevertheless, it should be admitted that students of the course may be more knowledgeable of the practice of product placement than students in other subject areas. This factor could influence responses about attitudes toward placements; however, performance in memory tests should be affected to lesser extent.

In the extant quantitative research on product placement, the sample size varies from 63 (Bennett et al., 1999) to 3532 subjects (Lehu & Bressoud, 2008), with the most popular size of around 200 subjects (e.g. Karrh et al., 2001). In the present research, the sample size was defined based on the intended effect size of the experimental manipulation. According to Cohen (1992), it is necessary to have at least 85 subjects in both control and experimental groups to detect a medium effect size ($r = .3$). In the present experiment, 160 subjects were in the control group and 172 in the experimental group. These numbers were sufficient to discover a medium effect size and keep the power of all tests (Type II error) at the level of .80.

Materials

In studies on product placement, the stimulus is frequently developed by combining segments from a series of movies (e.g. Jin & Villegas, 2007, Yang & Roskos-Ewoldsen, 2007). Such a stimulus is easy to develop, but it fails to reproduce the experience of watching a film, the real-world context of the present research (Balasubramanian et al., 2006). Viewing a video with numerous product placements may make subjects pay more attention to placements than they would otherwise do when watching a full movie. The duration of the stimulus can also affect measures of certain dependent variables. For example, measures of recall for placements in short movie segments are different from similar measures after exposure to the entire movie (Balasubramanian et al., 2006). For this reason, some authors (e.g. Bennett et al., 1999; Russell, 2002) have used stimuli consisting of entire movies.

There are barriers to this sort of presentation for the current research. Recently released movies are unavailable for free public screening because of copyright law (Copyright Protection in New Zealand, 2009). However, at the same time, unless it is a recent release, a full-length movie would not likely attract a sufficient number of subjects. Although

subjects of the present research were recruited among students, who are typically more organised and cooperative than other populations (Enis et al., 1972), few of them would probably agree to watch a full-length movie without some kind of compensation. Under such circumstances, the stimulus had to be no longer than a few minutes so that the researcher could demonstrate it in a 50-minute class. Instead of clips from several movies, a continuous segment from one movie with the placements of both branded and unbranded risky products was selected. In addition, the opening sequence of a movie was used to ensure consistency of its perception. The only problem with a stimulus of such character was finding a movie possessing all of these attributes.

After an extensive search, the first minutes of the movie *Secret Window* (2004), a mystery/thriller, were found to contain the necessary placements of alcohol and tobacco products. Placements of such non-risky products as cars, snack foods, electronics, and a soft drink were also present in the sequence. *Secret Window* is an adaptation of Stephen King's novella *Secret Window, Secret Garden* (Szumskyj, 2008). Some brand placements in the movie were present in the novella. In particular, the *L&M* cigarettes appeared in the same part of the book and the movie (King, 1990), while *Jack Daniel's* whiskey was placed only in the movie. There were some other discrepancies between the book and the movie suggesting the possibility of the deliberate placement of some brands. For example, a bottle of *Pepsi* in the book became a can of *Mountain Dew* in the movie.

The present research adopts a technique for classifying product placement developed by Bennett et al (1999). They considered each placement in terms of the mode of product exposure, prominence, duration, frequency, and the characters' interaction with the product.

Table 1: Risky Products in the Stimulus (excerpt from *Secret Window*)

Brand/ Product	Duration (seconds)	Mode	Interaction with character	Prominence	Frequency
Jack Daniel's (verbal reference)	2	Verbal	no	low	1
L&M (package)	3, 2	Visual	yes	moderate	2
Cigarette smoking	6, 2, 3, 2, 5	Visual	yes	moderate	5
Unbranded bottle of wine	2	Visual	yes	low	1

Table 1 demonstrates how each risky product was presented in the stimulus. Although the cigarettes smoked had no visible branding, audience members could infer that the character smoked *L&M* because a package of that brand of cigarettes had been shown before the actual on-screen smoking.

The placement of risky products is not as prominent as some non-risky products; however, the prominence of some non-risky products should not be considered as a flaw of the stimulus, given that more prominent risky products could potentially lead subjects to guess the purpose of the experiment.

Both alcohol and tobacco products are presented without artificial conspicuousness in the clip from *Secret Window*. The package of *L&M* cigarettes is shown very briefly, and smoking scenes are central to understanding the feelings and motivations of the main character. He is accused of plagiarism and smoking is presented as a way to relieve his anxiety. The process of smoking sends decidedly ambiguous messages. On the one hand, the character does not want others to know he is smoking because he has recently quit. On the other hand, the film shows that he obviously enjoys smoking. The fact that the smoking character is played by a popular actor (Johnny Depp) could have some additional glamorising effect. Alcohol is presented in a similarly ambiguous manner. The brand of *Jack Daniel's* whisky is mentioned in the dialogue of the main characters to explain another character's strange behaviour. At the same time, *Jack Daniel's* is implicitly praised as a factor that inspired this character in his writing.

In the beginning and at the end of the stimulus, there was a logo of one of New Zealand's television channels (*Four*). This was used as a sign indicating commercial breaks. Showing this logo was intended to make viewers feel that they are watching a movie broadcast on television.

The structural parameters of the DPI comply with the FTC's requirements for televised advertising disclosures (see p. 39):

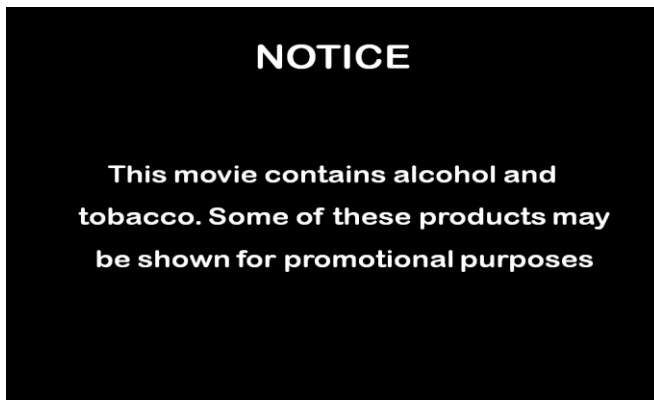
- It was concurrently presented visually (text) and orally (voice-over of the text);
- The letter size of the text was bigger than 1/25th of the screen height;
- It was presented with white letters on a black background to make its colours correspond to the opening titles of the movie;

- It remained on the screen for a sufficient amount of time;
- It was shown before the video sequence.

Moving on to the text of the DPI itself, previous research has shown that one way to attract attention to a disclosure is the use of a signal word (Rogers, 2000). There are several signal words that refer to different degrees of hazard (e.g. 'warning' or 'danger'). The disclosure of risky products is intended to advise of the persuasive intent of their placement rather than the hazards of the products themselves. Therefore, the DPI cannot use a signal word that signals or refers to hazards. The word *notice* is considered to be the least cautionary signal word (Wogalter, Conzola & Smith-Jackson, 2002) and this signal word was used as the title of the DPI in the current experiment.

The DPI was selected on the basis of the pre-test study and consisted of two messages. One of them was about the appearance of risky products in the movie. The other one advised of the possible persuasive intent behind these appearances. The actual DPI is displayed below.

Figure 3: Information Disclosure



The stimulus for the experimental group consisted of the DPI and the video sequence (11 minutes 33 seconds), while the stimulus for the control group contained only the video sequence (11 minutes 24 seconds, available in Appendix D, p.127).

Questionnaire

When developing a questionnaire, a researcher must consider a number of diverse factors, such as the wording of individual measurement items, the number and order of items, the format of the questions and response alternatives, measures for ensuring a voluntary attitude, and confidentiality of responses (Bagozzi, 1994).

Similarly to the questionnaire of the pre-test, the questionnaire for the main study (Appendix B, p.114) was preceded by a consent form. By signing, subjects agreed to participate in the experiment. The research purpose was stated to be an assessment of product perception. Short guidelines for filling out the questionnaire were followed by questions about age and gender. The next question was about the number of movies subjects watched per month across different media channels.

Performance in recall is usually measured by asking subjects to identify all consumer products and specific brands of products, services, or companies in a movie sequence (Gupta & Lord, 1998). In the present research, the questionnaire asked subjects to list all products and brands they saw or heard about in the stimulus. No cues that could facilitate recall were provided.

In a test of recognition, subjects are given a list of items from which they need to select the previously presented items (Zinkhan, Locander & Leigh, 1986). There is no fixed proportion of correct and incorrect responses for recognition questionnaires. In the study of Bennett et al. (1999), distracting responses composed half of the list, while Zinkhan, Locander and Leigh (1986) used a one-to-five proportion of correct and incorrect responses. There were two brands of risky products (*L&M* and *Jack Daniel's*) and three unbranded risky products (cigarettes, whiskey and wine) appearing in the present study's movie sequence. The number of correct and incorrect responses in the recognition tests was set in accordance with this difference in the number of recognition items. In the test of product recognition, the proportion was one-to-one. In the case of brand recognition, the proportion was one-to-five.

A Likert scale was used to assess the acceptability of the placement of risky products. It was similar to the one used in the study by Gupta and Gould (1997). The scale consisted of seven points with *unacceptable* (-3) on the left end of the scale, *acceptable* (3) on the right end of the scale, and *neither* (0) in the middle. Subjects were asked to tick one of the seven

boxes to indicate their acceptability of five brands and eight products, some of them risky. Acceptability-related questions did not refer to brands and products appearing in the stimulus because subjects were asked about the acceptability of placements in movies in general.

Awareness of the persuasive intent was measured with the scale adapted from Campbell's (1995) study. She developed six statements to assess inferences of the manipulative intent of advertisements along a seven-point Likert scale. The statements were modified for the evaluation of the persuasiveness of risky (alcohol and tobacco) and non-risky (soft drink) products in the stimulus. Alcohol-related questions were presented before the questions about soft drinks and cigarettes because alcohol was exposed in the stimulus in the least prominent manner among the three. The soft drink questions were used as distractors to help obscure the purpose of the experiment.

Following Bagozzi's (1994) suggestions on the development of questionnaires, the sensitive questions about consumption of alcohol and tobacco products were presented at the end of the questionnaire. A question about alcohol consumption habits was borrowed from the alcohol and drug survey form developed by the Core Institute of Southern Illinois University (2008). Subjects were asked to indicate the average number of standard drinks they consumed per week. Smoking habits were assessed with the help of an instrument developed by the World Health Organization (2011). Firstly, subjects were asked to indicate if they smoked, and then to state how many and what type of tobacco products they consumed per day.

The questionnaire did not contain questions for the assessment of demand awareness for the following reason. To diminish demand awareness, some experimenters disguise the research purposes or even actively deceive experimental subjects (Cook et al., 1970). Particularly with deception experiments, post-experimental questions are used to determine demand awareness (Page, 1973). Subjects of the present study were informed that the purpose of the study was to assess perception of products. Some subjects doubtless would have guessed the objective of the research. Despite this, the subjects' responses in the research are assumed to be unaffected by demand characteristics because subjects tend to respond honestly if they realise that the experimenter has not hidden the research purposes (Orne, 1962).

Procedures

The experiment was carried out during 24 tutorial sessions of a marketing-related course, similar to the sessions used in the pre-test but in relation to a different course. Twelve tutorial sessions were randomly assigned to be experimental groups and another twelve to be control groups. Attendance in each tutorial session varied (from 9 to 20 students), but the aggregate number of control (N = 162) and experimental (N = 172) subjects was almost equal. None of the subjects attended more than one tutorial session, so each subject participated in the study only once.

A tutorial usually lasts 50 minutes, out of which approximately 20 minutes were taken for the experiment. Tutorials occurred in classrooms with a seating capacity of around 20 students. Each tutorial room is equipped with a computer and projector that enabled the researcher to show the experimental video in each experimental session. All experimental sessions were administered by the researcher in the same manner.

Subjects were approached either at the beginning (10 experimental sessions) or the end (14 experimental sessions) of tutorial sessions. Prior to the experiment, subjects in both experimental and control groups were advised of the purpose of the study and asked if they were willing to participate. The researcher then distributed the consent forms, stapled to the questionnaire. Subjects were asked to sign the consent form and to not to look at the questionnaire until advised to do so. After signing the consent form, subjects were asked to pay attention to the stimulus. The lights were turned off and the movie sequence was presented. The stimulus was projected on a white screen (100", 4:3 aspect ratio). After the end of the movie sequence, the lights were turned on and subjects were asked to fill out the questionnaire. The completed questionnaires were collected by the researcher. Then subjects were thanked and dismissed.

Approach to the Data Reporting and Analysis

There are following conditions which need to be met to make the use of parametric tests viable (Siegel, 1957):

1) Observations must be *independent*:

in the present study, subjects had a very limited opportunity to influence the responses of others. This suggests that the data given by each of the different subjects were independent.

2) Observations must be drawn from *normally distributed populations*:

the Kolmogorov-Smirnov tests revealed that most scores of the pre-test and the experiment deviated significantly from the normal distribution (see Appendix C, p.124).

The lack of normal distribution of the data scores suggested that there was no need to check the conditions of (3) homogeneity of variance and of (4) availability of at least the an interval level of measurement (Siegel, 1957). The non-normal distribution of data demanded the use of non-parametric tests throughout the entire study. Among these tests were the Mann-Whitney test, the Wilcoxon signed-rank test and the Pearson's chi-squared test.

Due to their non-normal distribution, data scores are reported by indicating a median (*Mdn*) rather than a mean and variance. The median is a more appropriate statistic for non-normally distributed data because it is not affected by outliers and skewed data as heavily as mean statistics (Warner, 2008).

As suggested by Fisher (1925), the probability level (Type I error) was set at .05. Adjustments of the overall α -level were not undertaken in the present research for the simple reason that they are unnecessary if the treatment is not expected to influence several populations or if an underlying theory is not considered to be true only if all its hypotheses are true (Tutzauer, 2006). The present research did not intend to find support for such claims and, consequently, did not require reduction of the α -level.

In the present research, statistical tests are conducted to make a binary decision about whether an experimental hypothesis is supported or not supported. Instead of testing experimental hypotheses, it is more common to test null hypotheses or predictions on the lack of the effect predicted by the experimental hypothesis (Field, 2005). Despite the advantages of the null hypothesis significance test, the logic behind it can be confusing and controversial (Warner, 2008). For this reason, the present research tested and reported experimental rather than null hypotheses.

This chapter has discussed and justified in some detail the method used for testing experimental hypotheses on the processing of product placements in the presence of the treatment and the method for selection of the treatment itself. The cons and pros of these methods were highlighted in relation to the extant literature and the measures for improving their reliability and validity were presented. The next chapter presents the outcomes of data analysis and discusses the implications of the study.

Chapter 5: Data Analysis

Having established the larger context of this experiment and laid out the contours of the study itself, the final two chapters are dedicated to unpacking its results and examining its implications for practice, policy and further research. This chapter begins with an examination of the results of the pre-test. Following this, the next section presents the results of the experiment itself, grouped in accordance with the hypotheses presented earlier and by the type of tested variables: recall, recognition, acceptability and awareness of persuasive intents. The chapter concludes with a discussion of the findings in relation to these hypotheses.

5.1 The Pre-Test

As already noted, the pre-test was undertaken for the purpose of finding the most comprehensible wording of the disclosure of the persuasive intent (DPI). The pre-test consisted of a comparative analysis of the comprehension levels of four different but equivalent wordings of the same disclosure. The DPI selected was used as the treatment in the main study.

Sample Information

All pre-test subjects were recruited from undergraduate marketing courses. A total of 181 students voluntarily agreed to participate in the pre-test without compensation. Each of four wordings of the DPI were tested on roughly the same number of subjects (52 subjects in group one, 46 subjects in group two, 45 subjects in group three, and 38 subjects in group four). Demographic data were not collected because such personal differences would not impact on research results.

Results

Testing the level of comprehension of four different wordings of the DPI was carried out by comparing the sensitivity index (A') for each wording of the DPI (the formula for

calculating A' can be found on p.45). The indices were firstly computed by collapsing hits (h) and false alarm (f) responses across the entire sample. The results of computing the collapsed sensitivity indices (A') are summarised in Table 2.

Table 2: A' Scores Collapsed Across the Entire Sample

Disclosure	Score
DPI 1: The following film shows consumption of alcohol and tobacco. Some of the drinking and smoking scenes in this film may be paid advertisements.	.67
DPI 2: This movie contains alcohol and tobacco. Some of these products may be shown for promotional purposes.	.70
DPI 3: The motion picture you are about to see may contain paid advertisements for alcohol and tobacco.	.65
DPI 4: Some of the appearances of alcohol and tobacco in this movie may be supported by the manufacturers of these products.	.69

DPI 2 acquired the highest A' score of .70, being closely followed by DPI 4 with the score of .69. The difference of .01 between the collapsed measures of A' scores for DPI 2 and DPI 4 was not conclusive enough to infer that that DPI 2 was better understood than other wordings of the DPI.

The sensitivity index can be also derived by computing the A' score for each subject and then averaging these across the entire group. The difference in comprehension was tested with the Kruskal-Wallis test. The results of testing indicated that the A' scores of all four wordings did not differ significantly ($H^{(3)} = 2.319, p = .509$). The medians of A' scores for the four wordings of the DPI are reported in Table 3.

Table 3: A' Scores Averaged Across Individual Subjects

DPI #	N	Score
1	52	.75
2	46	.78
3	45	.69
4	38	.76

Although there was no significant difference between A' scores of each of four wordings of the DPI, DPI 2 had the first ranking in both collapsed and averaged computations of the sensitivity index (A'). Thus, it was the clear choice as the treatment for the main study. The selected DPI used the following wording:

This movie contains alcohol and tobacco. Some of these products may be shown for promotional purposes.

5.2. The Main Study

Armed with the demonstrated clarity and comprehensibility of the DPI, the main study was undertaken to test if the DPI caused variance in recall, recognition, acceptability and awareness of the persuasive intent behind the placement of risky products. When examined in light of the hypotheses generated by the literature review, the results of the experiment are intriguing.

5.2.1 Results

Sample Information

The subjects for the experiment were 332 students recruited from an introductory marketing course, 170 male and 162 female. The subjects were between the ages 17 and 58, with a median age of 19.

There were 160 subjects in the control group and 172 in the experimental group. The gender composition of control and experimental groups did not differ significantly ($\chi^2(1) = 1.7, p = .19$). The median age of subjects in the control group ($Mdn = 18.55$) was almost the same as in the experimental group ($Mdn = 19.08$). For the purposes of this study, it was assumed that removing the age-outlier cases would not significantly affect test results because outliers do not usually influence the results of non-parametric analyses (Warner, 2008).

Non-New Zealanders composed 25% in both control and experimental groups. The possible discrepancy in attitudes toward risky products between New Zealanders and subjects of other national origin could be an argument in favour of removing the non-New Zealanders from the results. However, the similar percentage of non-New Zealanders in both groups suggested that their removal would not affect test outcomes. In addition, the stimulus contained some brands unavailable in New Zealand. This was likely to equalise subjects of all origins in their performance in memory tests. For these reasons, the original data were left unabridged.

Hypotheses on Recall of Product Placements

There were three hypotheses predicting effects of the DPI on recall of product placements without taking into account the impact of the placement modality.

H1a: The disclosure will improve recall of the placement of unbranded risky products among the experimental group.

Testing *H1a* with the Mann-Whitney test showed that the experimental group recalled more unbranded risky products ($Mdn = 1.13$) than the control group ($Mdn = .95$), $U = 12176.50, p = .041, r = -.11$. This finding supports the prediction of *H1a*.

Table 4: Counts of Unbranded Risky Products Recalled (*H1a*)

	Recall of unbranded products				Total
	0	1	2	3*	
No treatment	33 20.7%	100 62.0%	25 15.7%	2 1.6%	100%
Treatment	30 17.4%	93 54.1%	49 28.5%	0 0%	100%

* the maximum number of items

The second hypothesis on recall:

H1b: The disclosure will improve recall of the placement of branded risky products among the experimental group.

Testing *H1b* confirmed that the placement of branded risky products was recalled more frequently in the experimental group ($Mdn = .64$) than in the control group ($Mdn = .46$), $U = 11914.00$, $p = .019$, $r = -.12$. This finding supports the prediction of *H1b*.

Table 5: Counts of Branded Risky Products Recalled (*H1b*)

	Recall of branded products			Total
	0	1	2*	
No treatment	91 56.7%	58 36.2%	11 7.1%	100%
Treatment	81 47%	62 36%	29 17%	100%

* the maximum number of recall items

The aggregate recall scores of placements of risky products consisted of the recall scores of individual placements. Although there were no hypotheses about recall of individual placements in the presence of the DPI, its impact on the aggregate recall scores suggests that the DPI could also affect recall of individual placements. Results of the Pearson's chi-squared test partially support this prediction. The experimental group recalled the following placements more often than the control group:

- Whiskey: $\chi^2(1) = 5.483$, $p = .019$, $r = .13$;
- L&M cigarettes: $\chi^2(1) = 4.276$, $p = .039$, $r = .11$.

However, there was no significant difference between two groups in recall of

- *Jack Daniel's* whisky: $\chi^2(1) = 3.485, p = .062$;
- Cigarettes: $\chi^2(1) = 1.026, p = .311$.

The third hypothesis on recall:

H1c: The experimental group will recall the placement of branded risky products more often than the placement of unbranded risky products.

Testing *H1c* with the Wilcoxon signed-rank test confirmed that the experimental group recalled the placement of branded risky products ($Mdn = .32$) more frequently than the placement of unbranded risky products ($Mdn = .21$), $T = 0, p < .001, r = -.66$. This finding supported the prediction of *H1c*.

Hypotheses on Recognition of Product Placements

There were three hypotheses on how the DPI would influence recognition of the placement of risky products without the impact of the placement modality being considered.

H2a: The disclosure will improve recognition of the placement of unbranded risky products among the experimental group.

Testing *H2a* with the Mann-Whitney test discovered no significant difference between experimental ($Mdn = 1.39$) and control ($Mdn = 1.42$) groups in recognition of unbranded products, $U = 13429.00, p = .665$. Thus, *H2a* is the first hypotheses not to be supported by the experiment results.

Table 6: Counts of Unbranded Risky Products Recognized (*H2a*)

	Recognized of unbranded products				Total
	0	1	2	3*	
No treatment	4 2.8%	90 55.9%	58 36.1%	8 5.2%	100%
Treatment	4 2.6%	101 58.3%	60 34.8%	7 4.3%	100%

The second hypothesis on recognition:

H2b: The disclosure will improve recognition of the placement of branded risky product among the experimental group.

Again, there was no difference between experimental ($Mdn = .98$) and control ($Mdn = .89$) groups in recognition of branded risky products, $U = 12856.50$, $p = .41$, and $H2b$ was also not supported.

Table 7: Counts of Branded Risky Products Recognised ($H2b$)

	Recall of branded products			Total
	0	1	2*	
No treatment	50 31.3%	73 45.5%	37 23.2%	100%
Treatment	50 29.6%	71 42%	48 28.4%	100%

* the maximum number of items

The DPI's lack of impact on recognition of the placement of risky products in general suggests that recognition of individual placements would also not be affected by the DPI. The chi-squared test confirmed that the DPI had no effect on recognition of the following products:

- Cigarettes, $\chi^2(1) = .173$, $p = .677$;
- Whisky, $\chi^2(1) = 1.126$, $p = .289$;
- *Jack Daniel's* whisky $\chi^2(1) = .283$, $p = .594$;
- *L&M* cigarettes: $\chi^2(1) = 3.288$, $p = .070$.

The third hypothesis on recognition of placements of risky products in the presence of the DPI:

H2c: The experimental group will recognise the placement of unbranded and branded risky products at the same level.

Testing *H2c* with the Wilcoxon signed-rank test confirmed that the placements of branded (*Mdn* = .49) and unbranded risky products (*Mdn* = .46) were recognised at the same level in the experimental group: $T = 78.6, p = .677$. This finding supports the prediction of *H2c*.

Hypotheses on the Memory of Placements Presented in Different Modalities

Earlier, it was predicted that the DPI, in combination with the placement’s modality of presentation (visual/verbal; low/high plot connection), would affect the subjects’ performance in memory tests.

H3a: The experimental group will recall the placement of verbally presented brands of risky products more often than the placement of visually presented brands.

There was one verbally mentioned (*Jack Daniel’s*) and one visually presented brand (*L&M*) in the research stimulus. Testing *H3a* with the Wilcoxon signed-rank test revealed that the experimental group recalled the visually presented *L&M* (*Mdn* = .40) more frequently than the verbally mentioned *Jack Daniel’s* (*Mdn* = .30), $T = 31.5, p = .042, r = -.15$. This makes the prediction of *H3a* unsupported.

Table 8: Counts of Branded Risky Products Recalled in the Experimental Group Depending on Modality (*H3a*)

	L&M (visual mode)	Jack Daniel’s (verbal mode)
No recall	104 60.5%	120 69.8%
Recall	68 39.5%	52 30.2%
Total	172 100%	172 100%

The DPI was predicted to influence recognition of visually presented risky products (cigarettes) and verbally mentioned products (whisky) in a different manner:

H3b: The experimental group will recognise the placement of visually presented risky products more often than the placement of verbally mentioned products.

Testing *H3b* with the Wilcoxon signed-rank test confirmed that the visually presented product ($Mdn = .97$) was recognised more frequently than the verbally presented product ($Mdn = .33$), $T = 56.5$, $p < .001$, $r = -.79$.

Table 9: Counts of Unbranded Risky Products Recognized in the Experimental Group Depending on Modality (H3b)

	Cigarettes (visual mode)	Whiskey (verbal mode)
No recognition	6 3.5%	116 67.4%
Recognition	166 96.5%	56 32.6%
Total	172 100%	172 100%

The DPI was also predicted to have a different impact on recall of high plot placements (cigarettes) of low-plot placements (whiskey):

H3c: The experimental group will recall high plot placements of risky products more frequently than low plot placements.

Testing *H3c* with the Wilcoxon signed-rank test confirmed that the experimental group recalled the high plot placement ($Mdn = .76$) more frequently than the low plot placement ($Mdn = .34$), $T = 47.0$, $p < .001$, $r = -.64$. This finding supports the prediction of *H3c*.

Table 10: Counts of Branded Risky Products Recalled in the Experimental Group Depending on Plot Connection (*H3c*)

	Cigarettes (high plot)	Whiskey (low plot)
No recall	36 20.9%	117 68.0%
Recall	136 79.1%	55 32%
Total	172 100%	172 100%

Hypotheses on Acceptability of Product Placements

Once advised about the deliberate placement of risky products in non-commercial content, subjects exposed to the DPI were expected to change their attitudes toward the placement of both unbranded and branded risky products. Levels of acceptability were measured with a Likert scale consisting of seven points from *unacceptable* (-3) to *acceptable* (3) with *neither* (0) in the middle.

In particular, the DPI was predicted to affect the acceptability of the placement of unbranded risky products (hard liquor and cigarettes) in the following manner:

H4a: The disclosure will decrease acceptability of the placement of unbranded risky products in movies among the experimental group.

Testing *H4a* with the Mann-Whitney test showed that acceptability of the placement of unbranded risky products in experimental ($Mdn = -.042$) and control ($Mdn = -.33$) groups did not differ significantly, $U = 12563.50$, $p = .23$. Because of this finding, *H4a* was not supported.

The DPI was also predicted to influence acceptability of the placement of branded risky products that do not appear in the clip from *Secret Window* (*Marlboro* and *Johnny Walker*):

H4b: The disclosure will decrease acceptability of the placement of branded risky products in movies among the experimental group.

H4b was likewise tested with the Mann-Whitney test which revealed that experimental ($Mdn = -.64$) and control groups ($Mdn = -.50$) were similarly accepting of the placement of branded risky products: $U = 11728.00$, $p = .819$. Thus, the findings also do not support *H4b*.

Although there were no hypotheses predicting the DPI's impact on the acceptability of individual placements, the stated hypotheses suggest that this likely to be similarly unaffected by the DPI. Testing the levels of acceptability of individual placements with the Mann-Whitney test confirmed that there was no significant difference between experimental and control groups in acceptability of the following:

- Cigarettes $U = 12587.00$, $p = .20$, ($Mdn = -.94$ vs. $Mdn = -1.32$ in control groups);
- Hard liquor $U = 12795.50$, $p = .346$, ($Mdn = .36$ vs. $Mdn = .15$ in control groups);
- Marlboro cigarettes $U = 12169.50$, $p = .346$, ($Mdn = -.77$ vs. $Mdn = -.77$ in control groups);
- Johnnie Walker whisky $U = 11507.50$, $p = .413$, ($Mdn = .32$ vs. $Mdn = .47$ in control groups).

Furthermore, research to date predicted that the acceptability levels of the placement of unbranded and branded risky products would be influenced by the DPI:

H4c: Among the experimental group, the placement of branded risky products will be less acceptable than the placement of unbranded risky products.

Testing *H4c* with the Wilcoxon signed-rank test confirmed the hypothesis that the experimental group would be more accepting of the placement of unbranded ($Mdn = -.04$) than branded risky products ($Mdn = -.64$), $T = 56.12$, $p = .013$, $r = -.19$. This finding supported the prediction of *H4c*.

Hypotheses on Acceptability of the Placement of Risky Products Depending on Consumption of Risky Products

It was first predicted that the DPI would affect the acceptability of the placement of cigarettes among smokers and non-smokers in different ways:

H5a¹: Forewarned by the disclosure, smokers will find the placement of unbranded cigarettes more acceptable than non-smokers.

The results of testing *H5a¹* with the Mann-Whitney test revealed that the DPI made smokers (*Mdn* = -.20) more accepting of the placement of cigarettes than non-smokers (*Mdn* = -1.09): $U = 1366.50$, $p = .026$, $r = -.17$. This finding supported the prediction of *H5a¹*.

Table 11: Acceptability of the Placement of Cigarettes among Smokers and Non-Smokers in the Presence of the DPI (*H5a¹*)

	Unacceptable	-2	-1	Neither	1	2	Acceptable	Total
Smokers	2 8.5%	4 15.3%	6 22%	4 15.3%	2 8.5%	5 18.6%	3 11.8%	100%
Non-smokers	39 26.8%	23 15.9%	24 16.6%	28 19.3%	9 6.4%	10 7.1%	11 7.8%	100%

In the presence of the DPI, consumers of alcohol were similarly predicted to feel differently toward the placement of alcohol than non-consumers:

H5a²: Forewarned by the disclosure, drinkers will find the placement of unbranded alcohol products more acceptable than non-drinkers.

Testing *H5a²* with the Mann-Whitney test confirmed that drinkers of alcohol (*Mdn* = .52) were more accepting of the placement of hard liquor than non-drinkers (*Mdn* = -.71), $U = 1280.00$, $p = .024$, $r = -.17$. This finding supported the prediction of *H5a²*.

Table 12: Acceptability of the Placement of Hard Liquor among Drinkers and Non-Drinkers in the Presence of the DPI ($H5a^2$)

	Unaccept able	-2	-1	Neither	1	2	Accept able	Total
Drinkers	4 3.2%	13 9.3%	24 16.8%	33 23%	19 13.4%	31 21.6%	18 12.7%	100%
Non- drinkers	1 5.3%	9 33.3%	3 12.3%	4 15.7%	3 12.3%	2 8.8%	3 12.3%	100%

Finally, the DPI was expected to affect attitudes of consumers of risky products toward the placement of branded and unbranded risky products in different ways.

H5b¹: Forewarned by the disclosure, smokers will find the placement of brands of cigarettes less acceptable than the placement of unbranded cigarettes.

Results of the Wilcoxon signed-rank test showed that smokers remained similarly accepting of the placement of branded ($Mdn = -.20$) and unbranded ($Mdn = -.20$) cigarettes in the presence of the DPI: $T = 5$, $p = .714$. This finding makes the prediction of $H5b^1$ unsupported.

Table 13: Acceptability of the Placement of Branded and Unbranded Tobacco Products among Smokers in the Presence of the DPI ($H5b^1$)

	Unaccept able	-2	-1	Neither	1	2	Accept able	Total
Marlboro	2 8.5%	3 11.9%	8 28.7%	2 8.5%	1 5.1%	7 25.4%	3 11.9%	100%
Unbranded cigarettes	2 8.5%	4 15.3%	6 22%	4 15.3%	2 8.5%	5 18.6%	3 11.8%	100%

In the presence of the DPI, drinkers of alcohol were likewise predicted to have different attitudes toward the placement of branded and unbranded alcohol products:

H5b²: Forewarned by the disclosure, drinkers will find the placement of brands of alcohol less acceptable than the placement of an unbranded alcohol product.

As in the case of *H5b¹*, a Wilcoxon signed-rank test revealed a lack of significant difference between the levels of acceptability of the placement of branded (*Mdn* = .42) and unbranded (*Mdn* = .52) alcohol products: $T = 37, p = .769$ among consumers of alcohol in the experimental group. This finding makes *H5b²* unsupported.

Table 14: Acceptability of the Placement of Branded and Unbranded Alcohol Products among Drinkers in the Presence of the DPI (*H5b²*)

	Unaccept able	-2	-1	Neither	1	2	Accept able	Total
Johnnie Walker	1 1.1%	5 3.8%	19 13.8%	55 39.2%	24 17.3%	16 11.7%	18 13.1%	100%
Unbranded hard liquor	4 3.2%	13 9.3%	24 16.8%	33 23%	19 13.4%	31 21.6%	18 12.7%	100%

Hypotheses on Acceptability of the Placement of Risky Products Depending on the Use of File-Sharing Platforms

Moving on to the final set of hypotheses, the DPI was predicted to trigger psychological reactance in file-sharers and make them to feel differently toward the placement of risky products than people who do not use file-sharing platforms:

H6a: Forewarned by the disclosure, file-sharers will become more accepting of the placement of unbranded risky products.

Testing *H6a* with the Mann-Whitney test revealed instead that file-sharers (*Mdn* = -.09) remained similarly accepting of the placement of unbranded risky products as other subjects (*Mdn* = -.05) in the presence of the DPI: $U = 3379.00, p = .500$. This finding makes the prediction of *H6a* unsupported.

After the exposure to the DPI, file-sharers were also expected to have different attitudes toward the placement of branded risky products than other subjects:

H6b: Forewarned by the disclosure, file-sharers will become more accepting of the placement of brands of risky products.

As in the case of *H6a*, the test results did not conform to the predicted difference in acceptability of the placement of branded risky products between file-sharers ($Mdn = -.63$) and other subjects ($Mdn = -.65$): $U = 3202.00$, $p = .840$. The prediction of *H6b* is not supported due to this finding.

Hypothesis about Awareness of the Persuasive Intent behind the Placement of Risky Products

Finally, in regards to the broad question of how aware consumers are of the persuasive and commercial intent of product placement, the DPI was predicted to increase awareness of the manipulative intent of risky products in movies:

H7: Forewarned by the disclosure, subjects will become more aware of the manipulative intent of risky products appearing in a movie.

Testing this hypothesis with the Mann-Whitney test showed that subjects in experimental ($Mdn = .48$) and control ($Mdn = .50$) groups had similar awareness of the manipulative intent: $U = 12792.50$, $p = .509$. The lack of significant difference between control and experimental groups in awareness of the manipulative intent clearly does not support the prediction of *H7*.

5.2.2 Discussion

The DPI was predicted to affect the viewers’ processing of the placement of risky products. Slightly more than half of the hypotheses (10 out of 19) about the impact of the DPI failed to predict the results of this particular experiment. Table 15 summarises findings on the impact of the DPI.

Table 15: Summary of Findings

Experimental Hypotheses	Outcome
<i>H1a</i> : The disclosure will improve recall of the placement of unbranded	Supported

risky products among the experimental group.	
<i>H1b</i> : The disclosure will improve recall of the placement of branded risky products among the experimental group.	Supported
<i>H1c</i> : After exposure to the disclosure, the placement of branded risky products will be recalled more often by the experimental group than the placement of unbranded risky products.	Supported
<i>H2a</i> : The disclosure will improve recognition of the placement of unbranded risky products among the experimental group.	Unsupported
<i>H2b</i> : The disclosure will improve recognition of the placement of branded risky products among the experimental group.	Unsupported
<i>H2c</i> : The experimental group will recognise the placement of unbranded and branded risky products at the same level.	Supported
<i>H3a</i> : The experimental group will recall verbally presented the placement of branded risky products more often than the placement of visually presented brands.	Unsupported
<i>H3b</i> : The experimental group will recognise the placement of visually presented risky products more often than the placement of verbally mentioned products.	Supported
<i>H3c</i> : The experimental group will recall high-plot placements of risky products more frequently than low plot placements.	Supported
<i>H4a</i> : The disclosure will decrease acceptability of the placement of unbranded risky products in movies among the experimental group.	Unsupported
<i>H4b</i> : The disclosure will decrease acceptability of the placement of branded risky products in movies among the experimental group.	Unsupported
<i>H4c</i> : Among the experimental group, the placement of brands of risky products will be less acceptable than the placement of unbranded risky products.	Supported
<i>H5a¹</i> : Forewarned by the disclosure, smokers will find the placement of unbranded cigarettes more acceptable than non-smokers.	Supported
<i>H5a²</i> : Forewarned by the disclosure, drinkers will find the placement of unbranded alcohol products more acceptable than non-drinkers.	Supported

<i>H5b¹</i> : Forewarned by the disclosure, smokers will find the placement of brands of cigarettes less acceptable than the placement of unbranded cigarettes.	Unsupported
<i>H5b²</i> : Forewarned by the disclosure, drinkers will find the placement of brands of alcohol less acceptable than the placement of an unbranded alcohol product.	Unsupported
<i>H6a</i> : Forewarned by the disclosure, file-sharers will become more accepting of the placement of unbranded risky products.	Unsupported
<i>H6b</i> : Forewarned by the disclosure, file-sharers will become more accepting of the placement of brands of risky products.	Unsupported
<i>H7</i> : Forewarned by the disclosure, subjects will become more aware of the manipulative intent of risky products appearing in a movie.	Unsupported

Recall-Related Findings

As predicted by *H1a* and *H1b*, the experimental group recalled more branded and unbranded risky products than the control group. Recall is based on retrieval of words that characterise the items being recalled (Krugman, 1977). The DPI contained the key words “alcohol” and “tobacco”. Being primed with these words, the experimental group paid more attention to all appearances of alcohol and tobacco products in the video stimulus, and, consequently, recalled more branded and unbranded risky products than the control group.

Branded products were found to be more frequently recalled than unbranded products in computer games (Yang & Wang, 2008). In the present research, placements of branded risky products were also more frequently recalled than placements of unbranded products (*H1c*). This finding could be attributed not only to the salience of brands in general (Alba & Chattopadhyay, 1986), but also to the impact of the DPI.

Testing recall of individual products and brands produced mixed results. There was no difference in recall of cigarettes between experimental and control groups. This finding is possibly the result of the prominence of smoking scenes in the video stimulus. In contrast, the pack of *L&M* cigarettes was recalled more frequently by the experimental group, which is possibly due to the fact that unfamiliar brands are easier to recall (Karrh, 1998). *L&M*

cigarettes are not available in New Zealand, which makes their placement more noticeable for the subjects primed with the DPI.

The subjects' recall of whiskey was also significantly affected by the DPI. One possible explanation of this lies in the modality of the placement. As has been well documented, people are able to recall auditory information with greater frequency and accuracy than visual information (Cowan, 1988). In particular, Russell (2002) demonstrated the strong impact of auditory product placements on memory. In the experiment's stimulus, whiskey is verbally mentioned in the dialogue of main characters and previous research suggests that this mode of presentation, in combination with the DPI, was likely to facilitate recall of the placement.

However, quite contrary to the prediction of *H3a*, the auditory mode of presentation, in combination with the DPI's message, did not result in more frequent recall of verbally over visually presented brand placements. In fact, the experimental group recalled the *visual* placement more frequently than the verbal placement. In previous research, the recall of visual stimuli was found to be superior to auditory stimuli when it was measured with 10-second delay, while auditory was superior to visual stimuli when recall was measured immediately (Jensen, 1971). The significant delay in the measurement of recall in the present research is one possible explanation for the subjects' superior recall of the visual placement. In addition, there could be a subtle difference in the salience of the visual and verbal placements which led to superior recall of the former. The DPI could make this difference even more substantial.

The placement's connection with the story was another factor predicted to affect recall of risky products in the presence of the DPI (*H3c*). Test results confirmed the prediction of *H3c*. The presence of cigarettes significantly contributed to the story, and tobacco products were recalled more frequently than the placement of whiskey, which has a lower-level connection to the plot of the film. This finding is in agreement with Russell (2002) who found that plot connection improves performance in memory tests. The difference is that the present research compares recall of high and low-plot placements in the presence of the DPI. This suggests that forewarning subjects with the DPI could make the impact of plot connection on recall more decisive.

Recognition-Related Findings

The DPI was predicted to facilitate recognition of unbranded (*H2a*) and branded (*H2b*) risky products. An analysis of the test results, which reveals a lack of significant difference in recognition scores of control and experimental groups, show clearly that neither of these predictions are borne out by this experiment. There are several possible explanations for the failure of the DPI to impact on recognition. Performance in recognition tests is more resistant to the passage of time than performance in recall tests (Lucas, 1960). Recognition was tested only a minute after the exposure to the stimulus. The control group could recognise as many placements as the experimental group because it still retained most placements in memory. A testing for recognition after a more extended period of time would be needed to truly reveal if the DPI is able to impact on recognition. The relatively short duration of the video stimulus could also facilitate recognition. Even without forewarning of the persuasive intent, subjects could easily identify the placements which they had just seen in the video. The small number of placements in the video stimulus could also simplify the task of recognition. All of these factors were likely to facilitate recognition of risky products in the control group, which diminished the chances for detecting the DPI's impact in the current experiment.

As predicted by *H2c*, exposure to the DPI made recognition levels of unbranded and branded risky products similar. Subjects in the experimental group could still remember the DPI's message. In such cases, they would indicate recognition of alcohol and tobacco products even if they did not remember the placement of actual products in the video stimulus. Although no specific brands of risky products were mentioned in the DPI, subjects could become more attentive to them because the disclosure referred to persuasive intent, which is typically associated with brand placements in the mind of the audience (DeLorme & Reid, 1999). This cue was likely to help equalise recognition of the placement of branded and unbranded risky products.

Testing recognition of the placements in different modalities uncovered the predicted superiority in recognition of the visual over verbal placement in the presence of the DPI (*H3b*), in compliance with the findings of other studies (e.g. Haber, 1970; Standing, 1973) that reveal that visual memory exceeds verbal memory. There is also reason to believe that

processing visual placements requires less cognitive effort, thus also adding to the higher levels of recognition for visual than verbal placements

Acceptability Related Findings

Acceptability of the placement of unbranded (*H4a*) and branded (*H4b*) risky products was predicted to decrease after exposure to the DPI. The experiment, however, discovered that the DPI had no impact on acceptability levels. There are several possible explanations for the lack of affective response:

- Similar to participants in DeLorme and Reid's (1999) study, subjects in the present research may consider themselves immune to the impact of product placements. This belief would discourage or prevent them from reconsidering their attitudes toward product placements.
- The disclosure stated that there was a persuasive intent behind appearances of risky products in the research stimulus. Some subjects may have disagreed with this statement. In such cases, the DPI's message would be considered unsubstantiated and, consequently, would have no impact on attitudes.
- The DPI referred to the persuasiveness of risky products in one particular video sequence; however, subjects were asked about acceptability of risky products in movies *in general*. Thus, some subjects may have failed to link the DPI's message with the questions about acceptability.
- Bennett et al. (1999) discovered no change in attitudes toward product placements after they exposed subjects to a list of product placements. The lack of attitude change was attributed to the glamorising effect of a celebrity endorser (Bennett et al., 1999). The viewers with high connectedness to endorsers were more positive toward the practice of product placement than low-connected viewers, despite a warning about advertising messages embedded in the programme (Russell & Russell, 2008). In the present research, the smoking of cigarettes and the implied endorsement of a cigarette brand were carried out by a celebrity (Johnny Depp). Although the subjects could hardly develop a sense of connectedness to Depp's

character after watching a short video, they were likely to have certain pre-existing attitudes toward the actor. These attitudes could help to counteract the DPI's impact on the acceptability of placements.

As predicted by *H4c*, exposure to the DPI made subjects less accepting of the placement of branded than unbranded risky products. Blake et al. (2010) discovered that most adults in the United States are supportive of restrictions on the placement of tobacco brands in movies. Although Blake et al. (2010) did not compare attitudes toward the placements of branded and unbranded products, their finding about pro-restriction attitudes toward tobacco brands in movies suggested that people distinguish brands from unbranded products and disapprove of brand placements as promotional messages. Subjects of the present research were also likely to interpret brand placements as more commercially loaded than placements of unbranded products and, thus, have less favourable attitudes toward them.

Findings on Acceptability of the Placement of Risky Products Depending on Consumption of Risky Products

The exposure to the DPI made smokers more accepting of smoking scenes than non-smokers. This finding confirmed *H5a'*, though there was no convincing evidence that the DPI triggered strong psychological reaction among smokers, who became only slightly more accepting of the placement of cigarettes after being exposed to the DPI. Non-smokers also became slightly more positive toward tobacco products in movies. This can possibly be explained by what is called the 'forbidden fruit reaction'. The DPI could activate such reaction because the prohibitions against tobacco products make smoking more attractive to non-smoking audiences (Pechmann & Shih, 1999).

Consumers of alcohol became more accepting of the placement of alcohol products than non-drinkers after exposure to the DPI. It was also unclear if this attitude change was affected by psychological reactance. Psychological reactance is manifested in attitude change in the direction opposite to the one advocated by the persuasive communication (Ringold, 2002). The DPI expressed no explicit position toward the placement of risky products in movies; it only disclosed the promotional character of placements. Some

subjects, and especially regular consumers of alcohol, however, may have taken the DPI to be expressing an implicit criticism of the practice of product placement or the use of risky products like alcohol and tobacco. Similarly to other viewers (DeLorme & Reid, 1999), drinkers could be aware of the persuasive intent of product placements and this awareness would lead them to disregard the DPI's message and stick with their pre-existing attitudes toward the placement of alcohol products.

Contrary to the prediction of *H5b'*, the DPI did not make smokers less accepting of the placement of tobacco brands than unbranded cigarettes. This outcome was also contrary to the findings of Sherman et al. (2003), who found that smokers were positive towards sensual depiction of smoking yet negative towards the stimuli depicting brands and packaging of cigarettes. There is another difference between the present research and the study of Sherman et al. (2003): the latter measured implicit attitudes while the former relied on the measurement of explicit attitudes. Smokers in the present research may have hidden their actual attitudes toward the placement of cigarette brands because revealing them would contradict their own smoking behaviour. It is possible that the addition of measurement of implicit attitudes would bring the present study in line with the findings of Sherman et al. (2003). In addition, the prediction of *H5b'* could fail due to a small number of smokers in the experimental group (N=26), which did not allow to detect the impact of the DPI on measured variables.

The lack of significant differences in the acceptability of the placement of branded and unbranded alcohol products among drinkers in the experimental group (*H5b²*) can be at least partially explained by the fact that the number of drinkers who found the placement of *Johnnie Walker* neither acceptable nor unacceptable was almost twice as high than in the case of the placement of unspecified hard liquor. Drinkers could be either indifferent towards or unaware of *Johnnie Walker* as a brand. In either case, neutral attitudes toward *Johnnie Walker* may have diminished the predicted difference in acceptability of placements of branded and unbranded alcohol.

Findings on Acceptability of the Placement of Risky Products Depending on the Use of File-Sharing Platforms

File-sharers were another subgroup of subjects who were predicted to become more accepting of the placement of unbranded (*H6a*) and branded (*H6b*) products after being exposed to the DPI. Contrary to these predictions, there was no difference between file-sharers and other subjects in the levels of acceptability of both types of placement. *H6a* and *H6b* were based on the assumption that the DPI would arouse psychological reactance in file-sharing experimental subjects. For such reactance to be initiated, subjects have to be convinced that there is an intention to exert control over them and/or influence their behaviour (Clee & Wicklund, 1980). The DPI did not declare control over file-sharers, though it did imply that the subjects should become less accepting of risky products in movies. This implied message may not have been associated with government regulations, as was hypothesised. The DPI was not persuasive enough in this instance to make file-sharers change attitudes in the direction opposite to the one advocated, if implicitly, by the DPI. One final possible explanation is that the assumptions about the attitudes of file-sharers are mistaken or at least overly simplistic. There may be, for example, greater internal diversity amongst file sharers and their motivations than these assumptions have taken into account.

Findings on Awareness of the Persuasive Intent

Finally, testing *H7* revealed that levels of awareness of the persuasive intent of product placements did not differ between the control and experimental groups. This finding explains the failure of most of the acceptability-related hypotheses: the subjects could not change their attitudes toward product placements since they were not convinced that they are being manipulated by the placement of risky products. The DPI could be simply unconvincing because the subjects did not find adequate proof for the persuasiveness of placements in the research stimulus. Both branded and unbranded risky products could be seen as being presented realistically, without being too prominent or too poorly integrated in the story. On the other hand, the lack of significant results in regard to *H7* perhaps demonstrates that the DPI did not make subjects of the experimental group more aware the

experiment's purpose than subjects of the control group. This finding suggests that demand characteristics did not influence the accuracy of the experiment.

Having elucidated the results of the current study and offered some reasons why these results so often contradict what previous research would lead one to expect, it is time to consider the implications of this experiment for policy, for practice and for future research.

Chapter 6: Conclusion

The purpose of the present research was to discover how a carefully formulated disclosure of the persuasive intent (DPI) can affect the ways in which people process the placement of risky products in movies. Finding an answer on this question necessitated two sequential studies. Firstly, a pre-test was required to create a disclosure with the highest level of comprehension. After all, a disclosure can only have an effect on a member of a movie audience if that person understands its meaning. Secondly, a main study tested a number of experimental hypotheses about recall, recognition, acceptability and awareness of the persuasive intent behind the placement of risky products in movies, all derived from an extensive survey of the extant literature on product placement. This chapter provides a summary of the findings of this research, discusses its contributions to the field as well its implications and limitations and suggests a number of possible topics for further research to build on the insights of this experiment.

Overview of Findings

Testing the comprehensibility of different wordings of the DPI allowed the researcher to select the DPI for the main study. The test of comprehension enabled the researcher to discard those wordings of the DPI that were less understandable, which in turn increased effectiveness of the DPI.

The chosen DPI was found to influence recall of the placement of branded and unbranded risky products. The prediction that the DPI can affect memory for product placements was also supported by findings about the dependence of recall on the modality of the placement presentation and the degree of placement connection with the plot of the film chosen for the experiment stimulus. Recognition of both types of placement, however, was similar for both the experimental group, which was exposed to the DPI, and the control groups, which only viewed the stimulus. Nevertheless, the fact that the experimental group performed better than the control group in the more difficult recall tests (Bettman, 1979) indicates that the DPI had a decisive impact on experimental subjects' memory of placements.

Contrary to expectations, subjects did not find the placement of risky products less acceptable after being exposed to the DPI. This suggests that the message about the

promotional appeal of risky products in movies did not present any information or arguments that could make student subjects more accepting of the placement of risky products. Intriguingly, smokers and drinkers of alcohol were the only subjects in the experimental group whose attitudes toward the placement of risky products were significantly affected by the DPI. As for file-sharers, they did not find the DPI controversial enough to trigger their psychological reactance and consequential attitude change in the direction opposite to the one advocated, if implicitly, by the DPI. Finally, the experiment revealed that the DPI had no significant effect on subjects' awareness of the manipulative intent behind the placement of risky products.

Research Contributions

The increasing number of product placements in entertainment programmes has been interpreted by a major regulatory body in the United States, one of the world's foremost producers of entertainment media, as "a problem to be solved" (FCC, 2008, p.6). Disclosing product placement at the beginning and end of programmes is one of the solutions suggested by advocacy groups (Lee, 2008); however, to justify the mandatory introduction of disclosures, some empirical evidence of its impact on consumers is needed.

To date there have been only two significant studies (Bennett et al., 1999; Russell & Russell, 2008) of the ways in which people process product placements in the presence of such disclosures. Bennett et al. (1999) tested recall and attitudes toward product placements generally by simply showing a list of branded products appearing in the film, without mentioning the possible persuasive intent behind those appearances. The experiment by Bennett et al. (1999) also did not measure recognition of product placements, though their test could produce some evidence of the warning's impact on recognition due to the use of a full-length film as a stimulus rather than a film excerpt, as in the present research. The warning message used in the study by Russell and Russell (2008) referred either to the persuasive intent of placements or to the health effects of harmful behaviours. Although the authors measured the impact of these warnings on their subjects' beliefs about drinking, their warnings did not specify which products were included in their stimulus with the intent to persuade or manipulate audiences.

Bolstered by the pre-test, the disclosure used in the present research was more straightforward in its approach to informing subjects of what products they should expect to see in the movie and what purpose these products serve. The effectiveness of a disclosure depends on whether consumers actually understand it (Stewart & Martin, 2004), so if the persuasive intent of risky products in movies is ever disclosed in real life, it should be delivered in as straightforward and simple wording as possible. Therefore, discovering how subjects respond to a forthright disclosure is a contribution to knowledge.

Although Russell & Russell (2008) measured their subjects' consumption of alcohol, they did not report how this variable could affect the subjects' beliefs about drinking after being exposed to the warning. In contrast, the present research took into account not only drinking, but smoking and file-sharing habits when testing the impact of the DPI.

The same is true of the present study's exploration of how a DPI affects the recall and recognition of placements of different modalities and degree of connection with the plot. The present research extended the findings of Russell (2002), who tested the variance in recognition of placements depending on the mentioned variables, though without the impact of the DPI being considered.

Testing how the DPI affects the processing of product placements is not the only contribution of the present research. The present research interpreted the placement of *unbranded* risky products for the first time. The DPI clearly made viewers aware of this element of product placement, and logic would dictate that they will be less likely to be predisposed towards risky products after observing them in movies. This is one of the main contributions of the present research.

Many of the hypotheses based on the findings of previous research are challenged by the present experiment, due to the statistically insignificant impact of the DPI on a number of the measured variables. The failure to find empirical support for theoretical propositions does not mean that the findings of the present study should be discarded. Disagreement with predicted results can also provide contributions to knowledge (Perry, 2002). Indeed, one of the great strengths in this study is that it points to the existence of significant gaps, inaccuracies and imprecision in the extant body of literature on product placement.

Limitations

Despite its contributions, the external validity of the research findings could be limited by the following factors:

- Despite several contrivances, the experimental settings were still based in the laboratory rather than the field. The movie-watching experience was not replicated to the full extent. Russell's (2002) theatre methodology that relies on the true experimental conditions could reduce the pressure on subjects to attend to the experimental stimulus more than they otherwise would.
- The experimental stimulus was an excerpt from a single movie. This usually inflates the performance of subjects in memory tests and leads to the ceiling effect because recall measures for placements in movie excerpts are hardly compatible to similar measures undertaken with subjects exposed to an entire movie (Balasubramanian et al., 2006). As tables 4-7 indicate, there was no ceiling effect in the memory tests in the present research; the majority of subjects recalled/recognized only one out of two or three placements. However, the ceiling effect could be minimized to the greater extent if the stimulus was a two hour film rather than a 12 minute film excerpt.
- University students are likely to have greater levels of scepticism and resistance to persuasion than the general population (Russell & Russell, 2008). In addition, students are more prone to engage in heavy episodic drinking than their peers (Wechsler et al., 1995). These qualities of the student population may be interpreted as the tendency for sensation seeking or the willingness to get engaged in risk activities for the sake of such experience (Zuckerman, 1984). This factor could affect subjects' acceptability of the placement of risky products, especially given the importance the test places on subjects who are users of risky products.
- Subjects were recruited from among students of business-related courses, who could be savvier about the essence of product placement than students in other subject areas. Students in general are more aware of the tactics used in persuasive attempts than younger or less educated people (Boush, Friestad & Rose, 1994). These qualities of the student sample could mitigate the impact of the DPI on awareness of persuasive attempts.

- There are substantial differences in perception of smoking and drinking behaviours in different societies (Room, 2004). Fully one quarter of the subjects in this study was non-New Zealanders. Although the share of non-New Zealanders was similar in the control and experimental groups, their idiosyncrasies could affect the overall scores of acceptability of the placement of risky products, or at least point to the fact that the results are more international than strictly local.

Likewise, there are several factors that could negatively influence the internal validity of the research:

- Recognition was measured immediately following the subjects' viewing of the stimulus because it was impractical to do it at any other time, despite the fact that it is most effective to measure recognition at least a day after the experiment (Singh et al., 1988).
- Acceptability of the placement of risky products was measured explicitly. Consumers of risky products may have hidden their actual attitudes toward the placement of risky products because revealing them would contradict their own behaviour. Measuring implicit attitudes, as in Sherman's et al. (2003) study, would elucidate if consumers of risky products have different levels of acceptability toward the placement of branded and unbranded risky products.
- Awareness of the persuasive intent behind the placement of risky products was measured with the help of scales developed for testing awareness of the manipulative intent of attention-getting advertisements (Campbell, 1995). These scales contained some statements that were too leading and could provoke socially desirable answers.
- Although the movie used was not very successful and is not well known, some subjects may have seen the film, or parts of it, before the experiment, which would lead them to respond to the questionnaire differently from other subjects who had considerably more limited knowledge of the film and its plot.
- The DPI, as a persuasive communication on its own, could evoke either acceptance or rejection of its message. The pre-test of attitudes toward the DPI would reveal if

the subjects' attitudes toward the placement of risky products were not influenced by like/dislike of the DPI's message.

- The DPI was presented to subjects visually and orally. It would be desirable to test whether presenting the DPI in a single mode (visual only or oral only) affects comprehensibility of the DPI.

Despite these limitations, the findings of the present research have some implications for methodology, policy and practice.

Implications for Methodology

The Meaning Identification Technique (MIT) has to date been employed for testing comprehension of multiple paragraph texts (Marchant et al., 1988). In the present research, the MIT was modified and employed for testing comprehension of much shorter messages consisting of two brief sentences. Adapting the MIT for the assessment of understanding of warning messages may contribute to the quality of studies that use warnings or disclosures as treatments. So far, many of these studies did not test the comprehension of warning messages before using them (e.g. Pechmann & Shih, 1999) or used the Flesch Reading Ease test to measure textual difficulty rather than levels of comprehension (e.g. Lepkowska-White & Parsons, 2001).

Implications for Policy and Practice

The improved recall of placements and the lack of significant changes in attitudes toward placed products were interpreted by Bennett et al. (1999) as evidence that their warning was more beneficial for *advertisers* than consumers. The almost identical findings of the present research suggest that similar inferences can be made about the effects of the DPI. Advocates of mandatory disclosures of product placements may be disappointed by these conclusions, though they can still use them to lobby for the disclosure of risky products in movies.

Pechmann and Shih (1999) reported that showing an antismoking advertisement before a movie made fourteen-year-olds less favourable toward smoking. Subjects of the present

research were mostly in their late teens and early twenties. These audiences are less susceptible to messages about risks, especially warnings against drinking (Wolburg, 2001). The DPI of the present research could thus be too general to impact the affective responses of sensation-seeking university students. If the disclosure of risky products in movies is ever widely adopted for regular usage, the present study suggests that these disclosures will have to be tailored for particular audiences. The wording of a DPI could also be modified in accordance with a movie's genre and/or rating, thereby allowing policy makers to address each audience and each audio-visual text in the most effective manner possible.

Some advocacy groups demand concurrent disclosures of each placement (Nelson, 2004) and it is unlikely that a single disclosure on the placement of risky products would satisfy these groups. But, as the findings of the present research about favourable attitudes toward product placement and high awareness of its commercial nature suggest, these advocacy groups should be less persistent in their drive to expand existing regulations of product placement or they risk further alienating audiences and perhaps engendering counter-productive responses to these disclosures. Taking into account the fact that the practice of product placement aims at the "seamless" integration of products into programmes (McCarty, 2004, p.57), overregulation may make its use meaningless. The disclosure of risky products in movies may yet become a compromise solution which appeases advocacy groups without exasperating practitioners.

In addition to awareness of the persuasive intent behind the placement of branded products, consumers are also knowledgeable about the health effects of risky products thanks to warnings and numerous public service campaigns. In practice, reminders of either of these facts in the disclosure might be left unattended because, as studies have shown, people tend to ignore information they are already familiar with (Stewart and Martin 2004). This suggests that any disclosure in this area should inform consumers about the persuasive intent behind the placement of unbranded alcohol and tobacco products in movies.

Despite being a restrictive measure, a DPI targeting potentially harmful products may actually have some benefits for practitioners. They might find it more attractive to accept a single disclosure of risky products than to be forced to uncover all paid product placements. The DPI would indicate that practitioners insert products in entertainment programmes for persuasive purposes but would also distance them from the promotion of risky products. Having conceded to a new regulation, the practitioners would possibly be

in a better position to refuse the introduction of additional regulations or disclosures. At the same time, the disclosure would inoculate consumers from the subconscious impact of placements, thereby easing the concerns of advocacy groups.

The DPI would allow moviemakers to keep using risky products for artistic purposes without the threat of any film showing tobacco and alcohol products being given a restrictive rating, the measure suggested by some advocacy groups regarding smoking scenes (Chapman, 2008). Admitting that a placement of risky products was remunerated may risk a certain level of backlash on the moviemakers. Nevertheless, some consumers would interpret the DPI's message as a sign of the moviemakers' sincerity. The main benefit of the DPI for moviemakers is that it would not impair their ability to have an additional source of funding and would also not jeopardise their freedom of expression.

Further Research

The present research has produced some intriguing and at times counter-intuitive evidence about how university students process the placement of risky products after being exposed to a DPI. This evidence could be generalised to a broader population and different conditions, but such generalisations would remain conjectures without the supporting evidence brought by additional studies of those populations and conditions. For example, the study of the acceptability of product placement and awareness of its persuasive intent among middle-aged and older people may reveal if the findings of the present research can be generalised to any non-student population. The first findings, nevertheless, have uncovered some aspects of the phenomenon which should be studied further.

Studies by Gupta and Gould (1997), Gupta et al. (2000), and Schmoll et al. (2006), as well as the present research, reveal some aspects of consumers' perception of the placement of risky products. All these studies employ quantitative methods of data collection, with some of them relying on such definitive statements as "cigarette product placements in movies should be banned completely" (Gupta & Gould, 1997). These statements could make some subjects respond in a socially desirable manner or make them change their attitudes in the direction opposite to the one advocated by questionnaire statements. A qualitative study, akin to the one conducted by DeLorme and Reid (1999) on perceptions of product

placement, could bring some new perspectives on what viewers think about risky products in movies and whether they consider regulations on their placement necessary.

Although the MIT has proven to be an easy and convenient technique for measuring the comprehensibility of warning messages, its validity and reliability needs to be tested more thoroughly. In particular, there is a need for additional studies comparing results acquired through collapsing responses across all subjects and aggregating responses per each individual subject. The parametric and nonparametric measures of sensitivity (ability to distinguish correct from incorrect responses) should also be compared to find out if the latter measure produces results compatible with the former.

Both the reliability and validity of the research findings should be improved by using a full-length movie stimulus instead of a short movie excerpt. The use of the entire movie would allow the researcher to diminish substantially the impact of the ceiling effect. It would be also desirable to explore if physical settings (a movie theatre instead of a classroom) affect the processing of product placement. Turning to the matter of content, additional studies should be made to reveal if a movie's genre and/or rating affect acceptability of risky products.

There are several additional moderators for the affective responses found in this research which could be taken into account in further studies. Among them are:

- the sensation seeking factor (Zuckerman, 1984);
- the extent of incongruity of a tactic (Russell, 2002);
- the level of connectedness to movie characters (Russell & Russell, 2008);
- the number of movies watched;
- warning viewers not before but after exposure to the movie to control the impact of psychological reactance (Russell & Russell, 2008).

Different categories of consumers, including consumers of risky products, should be asked to discuss DPIs of different wording, length and creative execution. The findings of such studies would help to develop several effective versions of the DPI for use with real-world audiences. These versions could be rotated to avoid wearing out of the DPI's message and dulling its impact.

The influence of the DPI on affective processing of the placement of risky products could be also studied with the help of qualitative methods. Qualitative studies may explain whether people consider risky products in movies as an unfair persuasion tactics, and whether they find it beneficial to be warned about the placement of risky products.

The question of what attitudes different groups of consumers may have towards the DPI itself should be also studied. If research indicates the prevalence of negative attitudes toward the DPI, other policy interventions should be considered.

It is difficult to change attitudes with a single warning message, owing to its limited space and exposure (Krugman, Fox & Fisher, 1999). To make the DPI more effective in changing attitudes, one may reinforce its message by integrating the DPI in a broader communications campaign. The desirability of such campaigns, as well as of the DPI, should be discussed with policy makers in qualitative studies. Practitioners of product placement should also be involved in the debate. Their opinion on the introduction of the DPI could likewise be acquired through qualitative research.

The present research makes an important contribution to the extant knowledge by finding how a cue in the form of an information disclosure affects processing of the placement of risky products in movies. It is hoped that the findings of this research will be useful to other researchers, public policy officials, marketing practitioners and moviemakers. Ultimately, the interest of these professionals into the issues raised by the thesis might eventually most benefit the consumers.

REFERENCES

- Adams, J. S. (1966). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 2, pp. 267-299). New York Academic Press.
- Al-Rafee, S., Cronan, T. P. (2006). Digital piracy: Factors that influence attitude toward behavior. *Journal of Business Ethics*, 63(3), 237-259.
- Alba, J. W., Chattopadhyay, A. (1986). Salience effects in brand recall. *Journal of Marketing Research*, 363-369.
- Anderson, J. R., Bower, G. H. (1972). Recognition and retrieval processes in free recall. *Psychological Review*, 79(2), 97-123.
- Anderson, C. A., Benjamin Jr, A. J., Bartholow, B. D. (1998). Does the gun pull the trigger? Automatic priming effects of weapon pictures and weapon names. *Psychological Science*, 9(4), 308-314.
- Angelopoulos, C. (2010). *Product placement in European audiovisual productions*.
- Andrews, C. (2011). *Warnings and disclosures communicating risks and benefits: An evidence-based user's guide* (pp. 149-161): Marquette University.
- Apsler, R., Sears, D. O. (1968). Warning, personal involvement, and attitude change. *Journal of Personality and Social Psychology*, 9(21), 162.
- Arnett, J. (1990). Drunk driving, sensation seeking, and egocentrism among adolescents. *Personality and Individual Differences*, 11(6), 541-546.
- Arora, C., Sharma, G. (2011). Smoking ban in films: Is it uncalled for? Retrieved July 29, 2012, from http://articles.timesofindia.indiatimes.com/2011-11-26/news-interviews/30447333_1_smoking-ban-health-warnings-films
- Ashton, R., Kramer, S. (1980). Students as surrogates in behavioral accounting research: Some evidence. *Journal of Accounting Research*, 18(1), 1-15.
- Audiovisual Media Services Directive (2010). Retrieved March 2, 2012, from http://ec.europa.eu/avpolicy/reg/avms/index_en.htm
- Avery, R., Ferraro, R. (2000). Verisimilitude or advertising? Brand appearances on prime-time television. *Journal of Consumer Affairs*, 34(2), 217-244.
- Baggett, P. (1989). Understanding visual and verbal messages. In H. Mandl & J. Levin (Eds.), *Knowledge Acquisition From Text and Pictures* (pp. 101-124).
- Bagozzi, R. P. (1994). *Principles of marketing research*: Blackwell Business.
- Balasubramanian, S. (1994). Beyond advertising and publicity: hybrid messages and public policy issues. *Journal of Advertising*, 29-46.

- Balasubramanian, S., Karrh, J., Patwardhan, H. (2006). Audience response to product placements: an integrative framework and future research agenda. *Journal of Advertising*, 35(3), 115-141.
- Barlow, T., Wogalter, M. (1993). Alcoholic beverage warnings in magazine and television advertisements. *Journal of Consumer Research*, 147-156.
- Basil, M. D. (1994). Multiple resource theory I: Application to television viewing. *Communication Research*, 21(2), 177-207.
- Beauchamp, M. S., Lee, K. E., Argall, B. D., Martin, A. (2004). Integration of auditory and visual information about objects in superior temporal sulcus. *Neuron*, 41(5), 809-823.
- Beck, I. L., Carpenter, P. A. (1986). Cognitive approaches to understanding reading: Implications for instructional practice. *American Psychologist*, 41(10), 1098.
- Bennett, M., Pecotich, A., Putrevu, S. (1999). The influence of warnings on product placements. *European advances in consumer research*, 4, 193-200.
- Bettman, J. (1979). Memory factors in consumer choice: A review. *The Journal of Marketing*, 37-53.
- Binswanger, I., Cowan Jr, J. (2009). Firearms in major motion pictures, 1995-2004. *The Journal of Trauma*, 66(3), 906-911.
- Blythe, M., Wright, P. (2008). Technology scruples: why intimidation will not save the recording industry and how enchantment might. *Personal and Ubiquitous Computing*, 12(5), 411-420.
- Bower, G. H., Karlin, M. B., Dueck, A. (1975). Comprehension and memory for pictures. *Memory & Cognition*, 3(2), 216-220.
- Boush, D. M., Friestad, M., Rose, G. M. (1994). Adolescent scepticism toward TV advertising and knowledge of advertiser tactics. *Journal of Consumer Research*, 165-175.
- Bressoud, E., Lehu, J. M., Antonia Russell, C. (2010). The product well placed: The relative impact of placement and audience characteristics on placement recall. *Journal of Advertising Research*, 50(4), 374-385.
- Brehm, J. W. (1966). *A theory of psychological reactance*. New York.
- Broadbent, D. E. (1957). A mechanical model for human attention and immediate memory. *Psychological Review*, 64(3), 205-215.
- Burgoon, M., Alvaro, E., Grandpre, J., Voulodakis, M. (2002). Revisiting the theory of

- psychological reactance. *The Persuasion Handbook*, 213-232.
- Burnstein, E., Vinokur, A. (1975). What a person thinks upon learning he has chosen differently from others: Nice evidence for the persuasive-arguments explanation of choice shifts. *Journal of Experimental Social Psychology*, 11(5), 412-426.
- Buschke, H. (1976). Learning is organized by chunking. *Journal of Verbal Learning and Verbal Behavior*, 15(3), 313-324.
- Calder, B. J., Phillips, L. W., Tybout, A. M. (1981). Designing research for application. *Journal of Consumer Research*, 197-207.
- Campbell D, T., Stanley Julian, C. (1963). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally.
- Campbell, M. C. (1995). When attention-getting advertising tactics elicit consumer inferences of manipulative intent: The importance of balancing benefits and investments. *Journal of Consumer Psychology*.
- Centers for Disease Control and Prevention. Total and per capita adult yearly consumption of manufactured cigarettes and percentage changes in per capita consumption—United States, 1900–2004 (2006). Retrieved April 14, 2010, from http://www.cdc.gov/tobacco/data_statistics/tables/economics/consumption/index.htm
- Chapman, S. (2008). What should be done about smoking in movies? *British Medical Journal*, 17(6), 363.
- Chapman, S., Davis, R. (1997). Smoking in movies: is it a problem? *Tobacco Control*, 6(4), 269-271.
- Chavkin, L. (1997). Readability and reading ease revisited: State-adopted science textbooks. *The Clearing House*, 70(3), 151-154.
- Cialdini, R. B., Petty, R. E. (1981). Anticipatory opinion effects. In R. E. Petty, T. M. Ostrom & T. C. Brock (Eds.), *Cognitive Responses in Persuasion* (pp. 217-235).
- Clee, M. A., Wicklund, R. A. (1980). Consumer behavior and psychological reactance. *Journal of Consumer Research*, 389-405.
- Cochran, W. G. (1954). Some methods for strengthening the common χ^2 tests. *Biometrics*, 10(4), 417-451.
- Cohen, J. (1962). The statistical power of abnormal-social psychological research: a review. *The Journal of Abnormal and Social Psychology*, 65(3), 145-153.
- Cohen, J. (1992). A power primer. *Psychological bulletin*, 112(1), 155.

- Comments of the National Media Providers in the matter of sponsorship identification rules and embedded advertising (2008). FCC (Federal Communications Commission). Retrieved on June 15, 2010 from www.ana.net/about/getfile/14760
- Cook, T. D., Bean, J. R., Calder, B. J., Frey, R., Krovetz, M. L., Reisman, S. R. (1970). Demand characteristics and three conceptions of the frequently deceived subject. *Journal of Personality and Social Psychology*, 14(3), 185.
- Cook, T., Campbell, D. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Rand McNally, Chicago, IL, USA.
- Cowan, N. (1988). Evolving conceptions of memory storage, selective attention, and their mutual constraints within the human information-processing system. *Psychological Bulletin*, 104(2), 163.
- Cowley, E., Barron, C. (2008). When product placement goes wrong: the effects of program liking and placement prominence. *Journal of Advertising*, 37(1), 89-98.
- Cradit, J., Tashchian, A., Hofacker, C. (1994). Signal detection theory and single observation designs: methods and indices for advertising recognition testing. *Journal of Marketing Research*, 31(1), 117-127.
- Craik, F. I. (2002). Levels of processing: Past, present... and future? *Memory*, 10(5-6), 305-318.
- Craik, F. I., Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671-684.
- d Astous, A., Chartier, F. (2000). A study of factors affecting consumer evaluations and memory of product placements in movies. *Journal of Current Issues and Research in Advertising*, 22(2), 31-40.
- Dal Cin, S., Worth, K. A., Dalton, M. A., Sargent, J. D. (2008). Youth exposure to alcohol use and brand appearances in popular contemporary movies. *Addiction*, 103(12), 1925-1932.
- DeLorme Denise, E., Reid Leonard, N. (1999). Moviegoers experience and interpretation of brands in film revisited. *Journal of Advertising*, 28(2), 71-95.
- Doll, R. (1999). Risk from tobacco and potentials for health gain. *The International Journal of Tuberculosis and Lung Disease*, 3(2), 90-99.
- Du Plessis, E. (1994). Recognition versus recall. *Journal of Advertising Research*, 34(3).
- Eagly, A. H. (1974). Comprehensibility of persuasive arguments as a determinant of opinion change. *Journal of Personality and Social Psychology*, 29(6), 758.

- Enis, B. M., Cox, K. K., Stafford, J. E. (1972). Students as subjects in consumer behavior experiments. *Journal of Marketing Research*, 9(1), 72-74.
- Escamilla, G., Cradock, A. L., Kawachi, I. (2000). Women and smoking in Hollywood movies: a content analysis. *American Journal of Public Health*, 90(3), 412.
- Everett, S. A., Schnuth, R. L., Tribble, J. L. (1998). Tobacco and alcohol use in top-grossing American films. *Journal of Community Health*, 23(4), 317-324.
- Field, A. P. (2005). *Discovering statistics using SPSS*: SAGE publications Ltd.
- Fisher, R. A. (1925). *Statistical methods for research workers*: Genesis Publishing Pvt Ltd.
- Flesch, R. (1948). A new readability yardstick. *Journal of applied psychology*, 32(3), 221-233.
- Friestad, M., Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of Consumer Research*, 21(1), 1.
- FTC Staff Report: Consumer information remedies (1979).
- Gibson, B., Maurer, J. (2006). Cigarette smoking in the movies: the influence of product placement on attitudes toward smoking and smokers. *Journal of Applied Social Psychology*, 30(7), 1457-1473.
- Ginosar, A., Levi-Faur, D. Regulating product placement in the European Union and Canada: Explaining regime change and diversity. *Journal of Comparative Policy Analysis*, 12(5), 467-490.
- Glantz, S., Kacirk, K., McCulloch, C. (2004). Back to the future: smoking in movies in 2002 compared with 1950 levels. *American Journal of Public Health*, 94(2), 261-263.
- Glantz, S. A., Polansky, J. R. (2011). Movies with smoking make less money. *Tobacco Control*.
- Gould, S., Gupta, P., Grabner-Kräuter, S. (2000). Product placements in movies: a cross-cultural analysis of Austrian, French and American consumers' attitudes toward this emerging, international promotional medium. *Journal of Advertising*, 41-58.
- Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. *Psychological Foundations of Attitudes*, 147-170.
- Gupta, P., Balasubramanian, S., Klassen, M. (2000). Viewers' evaluations of product placements in movies: Public policy issues and managerial implications. *Journal of Current Issues and Research in Advertising*, 22(2), 41-52.
- Gupta, P., Gould, S. (1997). Consumers' perceptions of the ethics and acceptability of

- product placements in movies: Product category and individual differences. *Journal of Current Issues and Research in Advertising*, 19, 37-50.
- Gupta, P., Lord, K. (1998). Product placement in movies: The effect of prominence and mode on audience recall. *Journal of Current Issues and Research in Advertising*, 20, 47-60.
- Haber, R. N. (1970). How we remember what we see. *Scientific American*, (222), 104-120.
- Hackley, C., Tiwsakul, R., Preuss, L., House, S., Street, M., Hill, E. (2008). An ethical evaluation of product placement: a deceptive practice? *Business Ethics: A European Review*, 17(2), 109-120.
- Hancock, H., Fisk, A., Rogers, W. (2005). Comprehending product warning information: age-related effects and the roles of memory, inferencing, and knowledge. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 47(2), 219.
- Holt, D. B. (2002). Why do brands cause trouble? A dialectical theory of consumer culture and branding. *Journal of Consumer Research*, 29(1), 70-90.
- Holt, D. B. (2004). *How brands become icons: The principles of cultural branding*. Harvard Business Press.
- Hovland, C. I., Janis, I. L., Kelley, H. H. (1953). *Communication and persuasion; psychological studies of opinion change*.
- Hoy, M. G., Andrews, J. C. (2004). Adherence of prime-time televised advertising disclosures to the "clear and conspicuous" standard: 1990 versus 2002. *Journal of Public Policy & Marketing*, 170-182.
- Hoy, M. G., Stankey, M. J. (1993). Structural characteristics of televised advertising disclosures: a comparison with the FTC clear and conspicuous standard. *Journal of Advertising*, 47-58.
- Hudson, L., Ozanne, J. (1988). Alternative ways of seeking knowledge in consumer research. *Journal of Consumer Research*, 14(4), 508-521.
- Hudson, S., & Hudson, D. (2006). Branded entertainment: a new advertising technique or product placement in disguise? *Journal of Marketing Management*, 22, 5(6), 489-504.
- Hudson, S., Hudson, D., Peloza, J. (2008). Meet the parents: a parents' perspective on product placement in children's films. *Journal of Business Ethics*, 80(2), 289-304.
- Jensen, A. R. (1971). Individual differences in visual and auditory memory. *Journal of Educational Psychology*, 62(2), 123.

- Jin, C., Villegas, J. (2007). The effect of the placement of the product in film: Consumers emotional responses to humorous stimuli and prior brand evaluation. *Journal of Targeting, Measurement and Analysis for Marketing*, 15(4), 244-255.
- Johar, G. V., Simmons, C. J. (2000). The use of concurrent disclosures to correct invalid inferences. *Journal of Consumer Research*, 26(4), 307-322.
- Karrh, J. (1998). Brand placement: A review. *Journal of Current Issues and Research in Advertising*, 20, 31-50.
- Karrh, J., Frith, K., Callison, C. (2001). Audience attitudes towards brand (product) placement: Singapore and the United States. *International Journal of Advertising*, 20(1), 3-24.
- Karrh, J., McKee, K., Pardun, C. (2003). Practitioners' evolving views on product placement effectiveness. *Journal of Advertising Research*, 43(02), 138-149.
- Katsirea, I. (2010). The future of public service obligations after the AVMS Directive. *Infoamerica* (3).
- Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *The Journal of Marketing*, 1-22.
- Kerlinger, F. (1973). *Foundations of behavioral research*. New York, NY: Holt, Rinehart and Winston: Inc.
- Kennedy, J. F. (1962). Special message to the congress on protecting the consumer interest. Retrieved March 1, 2012, from <http://www.presidency.ucsb.edu/ws/?pid=9108#axzz1noaX9YvF>
- King, S. (1990). *Four past midnight*. Signet Book.
- Kintsch, W. (1970). *Models for free recall and recognition: Models of human memory*. New York: Academic Press.
- Kintsch, W. (1998). *Comprehension: a paradigm for cognition*. Cambridge University Press.
- Kiesler, C. A., Kiesler, S. B. (1964). Role of forewarning in persuasive communications. *The Journal of Abnormal and Social Psychology*, 68(5), 547.
- Koordeman, R., Kuntsche, E., Anschutz, D. J., van Baaren, R. B., Engels, R. C. Do we act upon what we see? Direct effects of alcohol cues in movies on young adults' alcohol drinking. *Alcohol and Alcoholism*, 46(4), 393-398.
- Krugman, D. M., Fox, R. J., Fischer, P. M. (1999). Do cigarette warnings warn? Understanding what it will take to develop more effective warnings. *Journal of*

- Health Communication*, 4(2), 95-104.
- Krugman, H. (1977). Memory without recall, exposure without perception. *Journal of Advertising Research*, 40(06), 49-54.
- Kuhn, K. A., Hume, M., Love, A. (2010). Examining the covert nature of product placement: Implications for public policy. *Journal of Promotion Management*, 16(1-2), 59-79.
- Laczniak, G. R., Murphy, P. E. (2006). Normative perspectives for ethical and socially responsible marketing. *Journal of Macromarketing*, 26(2), 154-177.
- Law, S., Braun, K. (2000). I'll have what she's having: Gauging the impact of product placements on viewers. *Psychology and Marketing*, 17(12), 1059-1075.
- Law, S., Braun-LaTour, K. (2004). Product placements: How to measure their impact *The psychology of entertainment media: Blurring the lines between entertainment and persuasion* (pp. 63-78).
- Lee, R. E., Taylor, V., & McGetrick, R. (2004). Toward reducing youth exposure to tobacco messages: examining the breadth of brand and nonbrand communications. *Journal of Health Communication*, 9(5), 461-479.
- Lee, S. (2008). Product placement in the United States: a revolution in need of regulation. *Cardozo Arts & Entertainment Law Journal*, 26, 202-232.
- Lehu, J. (2007). *Branded entertainment: Product placement and brand strategy in the entertainment business*: Kogan Page.
- Lehu, J., Bressoud, E. (2008). Effectiveness of brand placement: New insights about viewers. *Journal of Business Research*, 61(10), 1083-1090.
- Leigh, J., Menon, A. (1986). A comparison of alternative recognition measures of advertising effectiveness. *Journal of Advertising*, 15(3), 4-20.
- Lepkowska-White, E., Parsons, A. (2001). Comprehension of warnings and resulting attitudes. *Journal of Consumer Affairs*, 35(2), 278-294.
- Longacre, M. R., Adachi-Mejia, A. M., Titus-Ernstoff, L., Gibson, J. J., Beach, M. L., Dalton, M. A. (2009). Parental attitudes about cigarette smoking and alcohol use in the Motion Picture Association of America rating system. *Archives of Pediatrics and Adolescent Medicine*, 163(3), 218.
- Lucas, D. (1960). The ABCs of ARF's PARM. *The Journal of Marketing*, 25(1), 9-20.
- Lynch Jr, J. G., Srull, T. K. (1982). Memory and attentional factors in consumer choice: Concepts and research methods. *Journal of Consumer Research*, 18-37.

- Macmillan, N. A., Kaplan, H. L. (1985). Detection theory analysis of group data: Estimating sensitivity from average hit and false-alarm rates. *Psychological Bulletin*, 98(1), 185.
- Marchant, H., Royer, J., Greene, B. (1988). Superior reliability and validity for a new form of the Sentence Verification Technique for measuring comprehension. *Educational and Psychological Measurement*, 48(3), 827.
- Martilla, J. A., Carvey, D. W. (1975). Four subtle sins in marketing research. *The Journal of Marketing*, 8-15.
- Massaro, D. W. (1970). Perceptual processes and forgetting in memory tasks. *Psychological Review*, 77(6), 557.
- McCarty, J. (2004). Product placement: The nature of the practice and potential avenues of inquiry. *The psychology of Entertainment Media: Blurring the Lines between Entertainment and Persuasion*, 45-61.
- McLaughlin, B. (1965). "Intentional" and "incidental" learning in human subjects: The role of instructions to learn and motivation. *Psychological Bulletin*, 63(5), 359.
- Mekemson, C., Glantz, S. (2002). How the tobacco industry built its relationship with Hollywood. *British Medical Journal*, 11(Supplement 1), i81-i91.
- Miller, N., Maruyama, G., Beaber, R. J., Valone, K. (1976). Speed of speech and persuasion. *Journal of Personality and Social Psychology*, 34(4), 615.
- Miller, G. (1980). On being persuaded. In M. Roloff & G. Miller (Eds.), *Persuasion: New directions in theory and research* (pp. 11-28): Sage Publications.
- Miller, J. (1983). *FTC policy statement on deception*.
- Moriarty, S., Duncan, T. (1989). *How to create and deliver winning advertising presentations*. NTC Business Books.
- Morgenstern, M., Poelen, E. A. P., Scholte, R., Karlsdottir, S., Jonsson, S. H., Mathis, F., et al. (2011). Smoking in movies and adolescent smoking: cross-cultural study in six European countries. *Thorax*, 66(10), 875-883.
- Morton, J., Hammersley, R. H., Bekerian, D. (1985). Headed records: A model for memory and its failures. *Cognition*, 20(1), 1-23.
- Motion Picture Association of America. What do the ratings mean? (2009). Retrieved November, 26, 2009, from http://www.mpa.org/FlmRat_Ratings.asp
- Murdock, B. B., & Walker, K. D. (1969). Modality effects in free recall. *Journal of Verbal Learning and Verbal Behavior*, 8(5), 665-676.

- Murray, N. M., Manrai, L. A., Manrai, A. K. (1993). Public policy relating to consumer comprehension of television commercials: A review and some empirical results. *Journal of Consumer Policy*, 16(2), 145-170.
- National Rifle Association of America, Institute for Legislative Action. More guns, less crime (again) in 2008 (2008). Retrieved April 12, 2010, from <http://www.nraila.org/Issues/FactSheets/Read.aspx?id=206&issue=007>
- Nebenzhal, I., Jaffe, E. (1998). Ethical dimensions of advertising executions. *Journal of Business Ethics*, 17(7), 805-815.
- Nelson, R. A. (2004). A product placement resource guide. *Journal of Promotion Management*, 10(1-2), 259-267.
- Newell, J., Salmon, C., Chang, S. (2006). The hidden history of product placement. *Journal of Broadcasting & Electronic Media*, 50(4), 575-594.
- NZ Ministry of Health (2006). *Review of the regulation of alcohol advertising: information for stakeholders*.
- Orne, M. T. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist*, 17(11), 776.
- Page, M. M. (1973). On detecting demand awareness by postexperimental questionnaire. *The Journal of Social Psychology*, 91(2), 305-323.
- Paivio, A. (1983). The empirical case for dual coding. *Imagery, Memory and Cognition*, 307-332.
- Papageorgis, D. (1968). Warning and persuasion. *Psychological Bulletin*, 70(4), 271.
- Patzer, G. (1996). *Experiment-research methodology in marketing: types and applications*: Quorum Books.
- Pechmann, C., Shih, C. F. (1999). Smoking scenes in movies and antismoking advertisements before movies: effects on youth. *The Journal of Marketing*, 1-13.
- Penney, C. G. (1989). Modality effects and the structure of short-term verbal memory. *Memory & Cognition*, 17(4), 398-422.
- Perdue, B. C., Summers, J. O. (1986). Checking the success of manipulations in marketing experiments. *Journal of Marketing Research*, 317-326.
- Perkins, H. W., Berkowitz, A. D. (1986). Perceiving the community norms of alcohol use among students: Some research implications for campus alcohol education programming. *Substance Use & Misuse*, 21(9-10), 961-976.

- Perry, C. (1994). A structured approach to presenting PhD theses: Notes for candidates and their supervisors. *ANZ Doctoral Consortium, University of Sydney, Sydney, March.*
- Peterson, R. (2001). On the use of college students in social science research: Insights from a second-order meta-analysis. *Journal of Consumer Research*, 28(3), 450-461.
- Petty, R. D., Andrews, J. C. (2008). Covert marketing unmasked: a legal and regulatory guide for practices that mask marketing messages. *Journal of Public Policy & Marketing*, 27(1), 7-18.
- Petty, R. E., Cacioppo, J. T. (1977). Forewarning, cognitive responding, and resistance to persuasion. *Journal of Personality and Social Psychology*, 35(9), 645.
- Petty, R. E., Cacioppo, J. T. (1979). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology*, 37(10), 1915.
- Petty, R. E., Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*, Dubuque, IA: WC Brown Co: Publishers.
- Petty, R. E., Cacioppo, J. T., Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology*, 41(5), 847.
- Petty, R., Cacioppo, J. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19, 123-205.
- Petty, R. E., Ostrom, T. M., Brock, T. C. (1981). Historical foundations of the cognitive response approach to attitudes and persuasion. In R. E. Petty, T. M. Ostrom & T. C. Brock (Eds.), *Cognitive Responses in Persuasion* (pp. 5-29).
- Petty, R. E., Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables *The Handbook of Social Psychology* (Vol. 1, pp. 323-380).
- Petty, R. E., Wegener, D. T., Fabrigar, L. R., Priester, J. R., Cacioppo, J. T. (1993). Conceptual and methodological issues in the elaboration likelihood model of persuasion: A reply to the Michigan State critics. *Communication Theory*, 3(4), 336-342.
- Pritchard, R. D. (1969). Equity theory: A review and critique. *Organizational Behavior and Human Performance*, 4(2), 176-211.
- Raju, P., Lonial, S. C. (1989). Advertising to children: Findings and implications. *Current Issues and Research in Advertising*, 12(2), 231-274.
- Reynolds, K., Lewis, L., Nolen, J., Kinney, G., Sathya, B., He, J. (2003). Alcohol

- consumption and risk of stroke: a meta-analysis. *Jama*, 289 (5), 579.
- Ringold, D. J. (2002). Boomerang effects in response to public health interventions: some unintended consequences in the alcoholic beverage market. *Journal of Consumer Policy*, 25(1), 27-63.
- Rogers, W., Lamson, N., Rousseau, G. (2000). Warning research: An integrative perspective. *Human Factors*, 42(1), 102.
- Room, R. (2004). Smoking and drinking as complementary behaviours. *Biomedicine & Pharmacotherapy*, 58(2), 111-115.
- Rosenberg, S., Schiller, W. J. (1971). Semantic coding and incidental sentence recall. *Journal of Experimental Psychology*, 90(2), 345.
- Royer, J. (2001). Developing reading and listening comprehension tests based on the Sentence Verification Technique (SVT). *Journal of Adolescent & Adult Literacy*, 45(1), 30-41.
- Royer, J., Greene, B., Sinatra, G. (1987). The Sentence Verification Technique: A practical procedure teachers can use to develop their own reading and listening comprehension tests. *Journal of Reading*, 30(5), 414-422.
- Russell, C. (2002). Investigating the effectiveness of product placements in television shows: The role of modality and plot connection congruence on brand memory and attitude. *Journal of Consumer Research*, 29(3), 306-318.
- Russell, C., Belch, M. (2005). A managerial investigation into the product placement industry. *Journal of Advertising Research*, 45(01), 73-92.
- Russell, D. W., Russell, C. A. (2008). Embedded alcohol messages in television series: the interactive effect of warnings and audience connectedness on viewers' alcohol beliefs. *Journal of Studies on Alcohol and Drugs*, 69(3), 459.
- Sargent, J., Tickle, J., Beach, M., Dalton, M., Ahrens, M., Heatherton, T. (2001). Brand appearances in contemporary cinema films and contribution to global marketing of cigarettes. *The Lancet*, 357(9249), 29-32.
- Sargent, J. D., Dalton, M. A., Beach, M. L., Mott, L. A., Tickle, J. J., Ahrens, M. B., et al. (2002). Viewing tobacco use in movies: Does it shape attitudes that mediate adolescent smoking? *American journal of preventive medicine*, 22(3), 137-145.
- Sauer, A. (2011, October 28). At the movies: Did rum diary's "nothing in moderation" motto scare away brand partners? Retrieved November 30, 2011 from <http://www.brandchannel.com/home/post/2011/10/28/At-the-Movies->

- Schmoll, N., Hafer, J., Hilt, M., Reilly, H. (2006). Baby boomers' attitudes towards product placements. *Journal of Current Issues and Research in Advertising*, 28(2), 33.
- Sherman, S. J., Rose, J. S., Koch, K., Presson, C. C., Chassin, L. (2003). Implicit and explicit attitudes toward cigarette smoking: The effects of context and motivation. *Journal of Social and Clinical Psychology*, 22(1), 13-39.
- Shrigley, R. L., Koballa Jr, T. R., Simpson, R. D. (1988). Defining attitude for science educators. *Journal of Research in Science Teaching*, 25(8), 659-678.
- Sears, D. O. (1986). College sophomores in the laboratory: Influences of a narrow data base on social psychology's view of human nature. *Journal of Personality and Social Psychology*, 51(3), 515.
- Segrave, K. (2004). *Product placement in Hollywood films: a history*: McFarland.
- Shepard, R. N. (1967). Recognition memory for words, sentences, and pictures. *Journal of Verbal Learning and Verbal Behavior*, 6(1), 156-163.
- Shields, D., Carol, J., Balbach, E., McGee, S. (1999). Hollywood on tobacco: how the entertainment industry understands tobacco portrayal. *Tobacco Control*, 8(4), 378-386.
- Siegel, S. (1957). Nonparametric statistics. *The American Statistician*, 11(3), 13-19.
- Singh, S., Rothschild, M., Churchill Jr, G. (1988). Recognition versus recall as measures of television commercial forgetting. *Journal of Marketing Research*, 25(1), 72-80.
- Singh, S. N., Churchill Jr, G. A. (1986). Using the theory of signal detection to improve ad recognition testing. *Journal of Marketing Research*, 23(4), 327-336.
- Slater, M. D. (2002). Entertainment education and the persuasive impact of narratives. In M. Green, J. Strange T. Brock (Eds.), *Narrative Impact: Social and Cognitive Foundations* (pp. 157-181).
- Sobell, L. C., Sobell, M. B., Toneatto, T., Leo, G. I. (1993). Severely dependent alcohol abusers may be vulnerable to alcohol cues in television programs. *Journal of Studies on Alcohol*, 54(1), 85-91.
- Solomon, M., Englis, B. (1994). Reality engineering: blurring the boundaries between commercial signification and popular culture. *Journal of Current Issues and Research in Advertising*, 16(2), 1-17.
- Standing, L. (1973). Learning 10000 pictures. *The Quarterly Journal of Experimental Psychology*, 25(2), 207-222.

- Statistics NZ (2010). National population estimates: September 2010 quarter Retrieved January 12, 2011, from http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationEstimates_HOTPSep10qtr.aspx
- Stewart, D., Martin, I. (2004). Advertising disclosures: Clear and conspicuous or understood and used? *Journal of Public Policy & Marketing*, 183-192.
- Stoolmiller, M., Wills, T. A., McClure, A. C., Tanski, S. E., Worth, K. A., Gerrard, M., et al. (2012). Comparing media and family predictors of alcohol use: a cohort study of US adolescents. *BMJ Open*, 2(1).
- Strain, J. J. (2009). Finding a place for embedded advertising without eroding the first amendment: An analysis of the blurring line between verisimilar programming and commercial speech. *BYU Journal of Public Law*, 24.
- Sutherland, N. (1968). Outlines of a theory of visual pattern recognition in animals and man. *Proceedings of the Royal Society of London. Series B. Biological Sciences*, 171(1024), 297-317.
- Swanson, J. E., Swanson, E., Greenwald, A. G. (2001). Using the implicit association test to investigate attitude-behaviour consistency for stigmatised behaviour. *Cognition & Emotion*, 15(2), 207-230.
- Szumskyj, B. (2008). *American exorcist: Critical essays on William Peter Blatty*. McFarland.
- Television without Frontiers Directive (1997). Retrieved 2 October, 2009, from http://ec.europa.eu/avpolicy/reg/tvwf/advertising/index_en.htm
- Thompson, K., Yokota, F. (2001). Depiction of alcohol, tobacco, and other substances in G-rated animated feature films. *Pediatrics*, 107(6), 1369-1374.
- Thorndyke, P. W. (1977). Cognitive structures in comprehension and memory of narrative discourse. *Cognitive Psychology*, 9 (1), 77-110.
- Tickle, J. J., Beach, M. L., Dalton, M. A. (2009). Tobacco, alcohol, and other risk behaviors in film: how well do MPAA ratings distinguish content? *Journal of Health Communication*, 14(8), 756-767.
- Trivia for King of the Hill (2010). Retrieved April 13, 2010, from <http://www.imdb.com/title/tt0118375/trivia>
- Tull, D. S., Hawkins, D. I. (1984). *Marketing research*. New York: MacMillan Publishing Company.

- Turcotte, S. (1995). Gimme a Bud! The feature film product placement industry. *Unpublished master's thesis, University of Texas at Austin, 230.*
- Tutzauer, F. (2006). On the sensible application of familywise alpha adjustment. *Human Communication Research, 29*(3), 455-463.
- Valcke, P., Lievens, E. (2010). Rethinking European broadcasting regulation. In C. Pauwels, H. Kalimo & K. Donders (Eds.), *Rethinking European media and communications Policy* (Vol. 14).
- Van Eijk, N., Rutten, P., Poort, J. (2010). Legal, economic and cultural aspects of file sharing. *Communication & Strategies, 77*(1), 35-54.
- Van Liemt, G. (2002). The world tobacco industry: Trends and prospects. *Documento de trabajo, 179.*
- Van Reijmersdal, E. A., Neijens, P. C., Smit, E. G. (2007). Effects of television brand placement on brand image. *Psychology and Marketing, 24*(5), 403-420.
- Warner, R. M. (2008). *Applied statistics: From bivariate through multivariate techniques.* Sage Publications, Inc.
- Weber, R. (2007). Responses to Matsunaga: To adjust or not to adjust alpha in multiple testing: That is the question. Guidelines for alpha adjustment as response to O'Keefe's and Matsunaga's critiques. *Communication Methods and Measures, 1*(4), 281-289.
- Wenner, L. (2004). On the ethics of product placement in media entertainment. *Journal of Promotion Management, 10*(1), 101-132.
- Wechsler, H., Dowdall, G. W., Davenport, A., Castillo, S. (1995). Correlates of college student binge drinking. *American Journal of Public Health, 85*(7), 921-926.
- White, I. S. (1959). The functions of advertising in our culture. *The Journal of Marketing, 24*(1), 8-14.
- Wickens, T. (2001). *Elementary Signal Detection Theory*: Oxford University Press, USA.
- Wilkie, W. L. (1985). Affirmative disclosure at the FTC: Objectives for the remedy and outcomes of past orders. *Journal of Public Policy & Marketing, 91-111.*
- Winsten, J. A. (1998). The Harvard Alcohol Project: Promoting the "designated driver". Retrieved October 8, 2012, from http://www.procor.org/community/community_show.htm?doc_id=700313
- Winston, C. (2008). The Efficacy of information policy: A review of Archon Fung, Mary Graham, and David Weil's full disclosure: The perils and promise of transparency.

Journal of Economic Literature, 46(3), 704-717.

Wogalter, M., DeJoy, D., Laughery, K. (1999). *Warnings and risk communication*: CRC.

Wogalter, M., Conzola, V., Smith-Jackson, T. (2002). Research-based guidelines for warning design and evaluation. *Applied Ergonomics*, 33(3), 219-230.

Wolburg, J. M. (2001). The "risky business" of binge drinking among college students: Using risk models for PSAs and anti-drinking campaigns. *Journal of Advertising*, 23-39.

Yang, M., Roskos-Ewoldsen, D. R. (2007). The effectiveness of brand placements in the movies: Levels of placements, explicit and implicit memory, and brand choice behavior. *Journal of Communication*, 57(3), 469-489.

Yang, H. L., Wang, C. S. (2008). Product placement of computer games in cyberspace. *CyberPsychology & Behavior*, 11(4), 399-404.

Zinkhan, G. M., Locander, W. B., & Leigh, J. H. (1986). Dimensional relationships of aided recall and recognition. *Journal of Advertising*, 15 (1), 38-46.

APPENDIX

A

Questionnaire on Comprehension of the Disclosure

Questionnaire

Please mark each of the sentences below with either yes or no answer.

Sentences that mean the same thing as the warnings you have just seen are to be circled **yes**.

Sentences that have different meaning than the warnings you have just seen are to be circled **no**.

Notice: Some scenes of this film may be confusing for some viewers. *yes no*

Notice: Some scenes of this film may be upsetting for some viewers. *yes no*

Notice: There are devil worshipping scenes in this movie which may be insulting for some viewers. *yes no*

Notice: There is blasphemy in this movie which may be unsuitable for some individuals. *yes no*

Notice: This movie contains smoking and drinking scenes which may be unintentionally integrated into the storyline. *yes no*

Notice: This movie contains alcohol and tobacco products, the placement of which may be compensated by their sponsors. *yes no*

Notice: The story presented in this movie is entirely fictional, though any resemblance to living or dead people is not accidental. *yes no*

Notice: The events presented in this movie are imaginary, and any resemblance to any living or dead person is unintentional. *yes no*

Notice: This movie includes some obnoxious scenes which are too objectionable for minors. You are an irresponsible parent or caretaker if you permit a child to watch this movie. *yes no*

Notice: This movie contains some unpleasant material which is too intriguing for children. You are a good parent or caretaker if you do not allow a child to watch this movie. *yes no*

Notice: The producers wish to remind you that smoking may result in lung cancer if you decide to imitate smoking habits of some actors in this movie. *yes no*

Notice: The producers wish you to be aware that there are some tobacco products in this movie, consumption of which may lead to lung cancer. *yes no*

Thank you for participating in this study

APPENDIX

B

The Experimental Questionnaire

QUESTIONNAIRE

You will be asked questions about products and brands you have just seen/heard about in the movie sequence, beginning with demographics questions.

Once you have answered a question, please do not go back to previous questions – just move forward through the questionnaire until it is complete.

What is your age? _____

What is your gender? _____

Please indicate the average number of movies watched per month over the following mediums

a.	Movie theatre	
b.	DVDs , Blue-ray Disks	
c.	TV (free to air)	
d.	SKY TV	
e.	Downloaded from peer-to-peer websites	
f.	Paid downloads	
g.	Free streaming video	
h.	Paid streaming video	

Which of the following products do you recognize as being shown or mentioned in the movie sequence you have just seen? Please circle all that apply

Candies	Napkins	Beer	Cheese	Ice cream	Cars	Bathrobe
Guns	Snacks	Deodorant	Soft drinks	Cigarettes	Coffee	Bicycles
Software	Calculator	Drugs	Peanut butter	Shoes	Whiskey	Laptops
Cigars	Refrigerator	Chewing gum	Lawnmower	Stationery	Speakers	Vacuum cleaner
Clock	Soap	Books	Cutlery	Telephones	Dish washing liquid	Typewriter
Kettle	Spectacles	Desk lamps	Watches	Wine	Chips	Toothpaste

Which of the following brands do you recognize as being shown or mentioned in the movie sequence you have just seen? Please circle all that apply

KFC	Ford	Heineken	Chrysler	Jif	Subway	Jeep
Microsoft	Marlboro	Fujitsu	Pall Mall	Jack	Acer	Doritos
				Daniel's		
Carlsberg	Casio	Audi	Gap	Glock	Mountain Dew	Raleigh
Apple	7-Up	Tide	L&M	Pizza Hut	Electrolux	Alka-Seltzer
Everybody drops the dime	Cadillac	Hotmail	Sony	Chevrolet	ThinkPad	Corona
Trojan	Pepsi	Google	Zippo	Starbucks	New Balance	Canon

Please indicate your attitude toward the acceptability of the following products and brands as product placements in general audience movies by ticking the corresponding box

	Unacceptable		Neither			Acceptable	
	-3	-2	-1	0	1	2	3
Fast food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marlboro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sportswear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Johnny Walker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fur coats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pepsi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Race cars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hard liquor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cigarettes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KFC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chainsaws	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the following statements keeping in mind the placement of alcohol in the movie sequence you have just seen/heard by ticking the corresponding box

	Completely disagree			Neither			Completely agree
	-3	-2	-1	0	1	2	3
I was annoyed by alcohol placements because the movie producers seemed to be trying to inappropriately manage or control the consumer audience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I didn't mind alcohol placements; the movie producers tried to be persuasive without being excessively manipulative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alcohol placements were fair in what was said and shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The way alcohol placements try to persuade people seems acceptable to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think that alcohol placements are unfair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the following statements keeping in mind the placement of soft drink in the movie sequence you have just seen/heard by ticking the corresponding box

	Completely disagree		Neither			Completely agree	
	-3	-2	-1	0	1	2	3
I was annoyed by soft drink placements because the movie producers seemed to be trying to inappropriately manage or control the consumer audience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I didn't mind soft drink placements; the movie producers tried to be persuasive without being excessively manipulative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soft drink placements were fair in what was said and shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The way soft drink placements try to persuade people seems acceptable to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think that soft drink placements are unfair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer the following statements keeping in mind the placement of cigarettes in the movie sequence you have just seen/heard by ticking the corresponding box

	Completely disagree		Neither			Completely agree	
	-3	-2	-1	0	1	2	3
I was annoyed by cigarette placements because the movie producers seemed to be trying to inappropriately manage or control the consumer audience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I didn't mind cigarette placements; the movie producers tried to be persuasive without being excessively manipulative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cigarette placements were fair in what was said and shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The way cigarette placements try to persuade people seems acceptable to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think that cigarette placements are unfair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate the average number of drinks you consume per week (a drink is a 30ml spirits, 330ml can of beer, 100ml glass of table wine)

Drinks _____ per week

Please indicate if you currently smoke tobacco:

Daily (if yes, proceed to the next question)

Less than daily

Not at all

Don't know

} (omit the next question)

On average, how many of the following products do you currently smoke each day?

a. Manufactured cigarettes? _____ per day

b. Hand-rolled cigarettes? _____ per day

c. Cigars, cheroots, or cigarillos? _____ per day

d. Any others?

Specify _____ per day

Thank you for participating in this study

APPENDIX

C

Tests of Normality

Table 1C: Test of Normality for the A' Indices in the Pre-Test Groups

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Group one	.219	38	.000
Group two	.200	38	.001
Group three	.134	38	.082
Group four	.141	38	.055

Table 2C: Test of Normality for Recall of the Placement of Risky Products

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Recall of unbranded risky products	.298	332	.000
Recall of branded risky products	.325	332	.000
Recall of cigarettes	.476	332	.000
Recall of whiskey	.461	332	.000
Recall of L&M	.421	332	.000
Recall of Jack Daniels	.463	332	.000

Table 3C: Test of Normality for Recognition of the Placement of Risky Products

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Recognition of unbranded risky products	.351	329	.000
Recognition of branded risky products	.220	329	.000
Recognition of cigarettes	.541	329	.000
Recognition of whiskey	.415	329	.000
Recognition of Jack Daniel's	.359	329	.000
Recognition of L&M	.383	329	.000

Table 4C: Test of Normality for Acceptability of the Placement of Risky Products

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Acceptability of unbranded risky products	.074	309	.000
Acceptability of branded risky products	.116	309	.000
Acceptability of cigarettes	.159	309	.000
Acceptability of hard liquor	.128	309	.000
Acceptability of Marlboro	.151	309	.000
Acceptability of Johnny Walker	.229	309	.000

Table 5C: Test of Normality for Awareness of the Persuasive Intent

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Awareness of the persuasive intent behind the placement of risky products	.060	327	.007

APPENDIX

D

Research Materials