Attenuating Consumer Reactance to Threatening Messages: The Moderating Role of Construal Level

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Discipline of Marketing
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August 2011
Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is original and my own work. The work was completed while enrolled at the University of Sydney Business School, under the supervision of Professor Donnel A. Briley. This thesis has not previously been submitted, wholly or in part, for any degree or other purposes. All sources and assistance received in preparing this thesis have been referenced and acknowledged.

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Acknowledgements

I would like to start by expressing my enormous gratitude to my supervisor, Professor Donnel Briley, for his incredible insights and guidance, his patience, and his constant encouragement throughout this (often arduous) process.

I am also indebted to Professor Nelson dos Santos António, for the confidence that he placed in me. Without his support, I would not have been able to embark on this PhD in the first place; and I am very grateful to have been able to.

My thanks to all the Marketing Faculty at the University of Sydney Business School for making the PhD program such an enriching learning experience; and to all the administrative staff, for making it so easy to navigate through the formalities.

Finally, I would like to acknowledge the funding for this research provided by the FCT - Fundação para a Ciência e a Tecnologia; QREN - POPH - Tipologia 4.1 - Formação Avançada, comparticipado pelo Fundo Social Europeu e por fundos nacionais do MCTES.

On a personal note, my deep-felt thanks to Pifas, Kiara and Kini, for all their love, patience and support. My thanks also to the research centre group (Bel, Danielle, Elly, En, Lachlan, Roxy, Sung-Young, Stewart, Shu, and Wendy); the BEN mums (Jedda, Kate, Mei-Ling, Maryam, Nava, and Sima); the Dulwich Hill mob (Christin, Denise, Gloria, Jane, Jo, Josie, Kate W, and Mia); as well as Jamie, Jason, Kate, Kouhiyar, Pifas, Todd, Sahba, and Varqá – for always being there, for keeping me sane, and keeping me going. I could not have done it without them!

A special thanks to Amin joon, Cia and Elena, who were absolute godsend during our time in Sydney.

Finally, I am forever indebted to Minoo and Said, for their unfailing love and encouragement, their wise advice and practical help throughout the PhD (and indeed, all of my life). I dedicate this dissertation to them.
Abstract

While many persuasive communications tend to be perceived as increasing consumer choice, others, such as public service announcements, more or less forcefully restrict that choice. This research examines the effects of threats to freedom on receptivity to message information, as a function of the level of construal at which the message is processed. The findings indicate that consumers are more open to high threat message information at high (vs. low) levels of construal, and this pattern holds when construal level is manipulated via message wording (study one) or is non-consciously primed prior to message exposure (study two). Also, the results point to the level of detail at which the message is considered, and the resulting use of persuasion knowledge, as the underlying reason for this pattern of results (study three). Specifically, at high levels of detail (i.e. low construal) there is a greater use of persuasion knowledge and lower information receptivity in face of high threat to freedom messages. At low level of detail (high construal), by contrast, persuasion knowledge use is lower and receptivity to information in freedom threatening messages higher.
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1. Introduction

This research examines how people respond to messages that threaten their freedom, depending on the level of construal at which those messages are processed. In particular, it suggests that high levels of construal can mitigate the negative impact of threats to freedom on consumers’ openness to the information presented in persuasive messages. The focus is therefore on the intersection between Psychological Reactance Theory (Brehm 1966) and Construal Level Theory (Liberman and Trope 1998; Trope and Liberman 2003); and the manner in which this intersection affects openness to, perceptions of, and so ultimately the effectiveness of, persuasive communications containing threats to freedom.

Reactance has been defined as “a motivational state of arousal” resulting from the removal, or the threat of removal, of a previously held freedom, which is cherished and one believes one should continue to possess (Brehm 1966; Burnkrant and Cousineau 1975, p.213). Once reactance occurs, there is a motivated shift in focus towards restoring the threatened freedom, by whatever means possible or available at the time (ibid). For instance, in discrete choice situations, the removal of an option has been shown to increase its attractiveness, while forced options suffer reduced appeal (Brehm et al. 1966).

The same is expected to occur in situations where the imposition on freedom is present in a persuasive message. The restriction should cause a move away from the position or course of action proposed in the message, and towards alternative stances (Burgoon et al. 2002). These movements can be reflected in attitudes – the mental effects of reactance, whereby it affects perceptions and judgments - or in action,
through behavioural effects (Brehm 1972). At the level of mental effects, reactance might for instance reduce receptivity to information, leading the persuasive message to be ignored or discounted as lacking in credibility; in terms of action, it can plausibly cause behavioural shifts in the direction opposite to that intended (Burgoon et al. 2002).

The level of construal at which such messages are framed or processed, however, is posited to help mitigate these negative effects. Construal level theory distinguishes between two forms of depicting objects and events, associated with different levels of psychological distance from these objects and events. High level of construal representations are abstract and schematic, focusing on primary and goal relevant features; while low level of construal representations are concrete, contextualised and detail-rich. These latter depictions are also more encompassing, in that they include peripheral and goal-unrelated features of objects and events; but are less able to provide a global, bird’s eye view of those items (Liberman, Trope, and Stephan 2007). Thus, for instance, “conducting a study” may be represented as “advancing science” at a high level of construal, but as “testing a hypothesis” or “entering the data collected this morning” at a low level of construal (Trope and Liberman 2003, p. 405). Similarly, a low level representation of “two children playing catch with a ball in a backyard” might include details such as the children’s ages, “the colour of the ball”, or “the temperature outside”; while a high-level construal of this activity might simply be “having fun” (Trope, Liberman, and Wakslak 2007, p. 83).

According to the theory, as psychological distance from an object or event increases, so does the level of construal at which that event or object is perceived;
resulting in systematic differences in evaluations, judgments and predictions (Trope and Liberman 2010). Construal level has been shown to not only impact the kind of information emphasised - the relative weighting given to different object features - but can also influence the kinds of knowledge accessed in decision making.

It seems likely, therefore, that level of construal will also exert a significant effect on the manner in which freedom threatening persuasive messages are approached; and in particular, on the level of receptivity consumers display toward their informational content. The proposal in this research is that this effect results from the differences in the level of detail at which persuasive messages are considered at high construal (low detail) vs. low construal (high detail), and the associated level of persuasion knowledge use. When more message details are considered, the threat to freedom increases in salience and serves as a cue to persuasion knowledge use, thus lowering information receptivity. When fewer message details are taken into account, persuasion knowledge remains inaccessible, and receptivity increases.

This research thus brings together with reactance effects and construal level theory, previous research regarding the Persuasion Knowledge Model (Friestad and Wright 1994), and the conditions for the use of such knowledge structures. The relationships between these constructs are not only of theoretical interest, but also of practical consequence. Persuasive messages, where they contain some form of restriction on freedom, cannot hope to achieve their goals - whether these relate to attitudinal, affective/emotional or behavioural outcomes – unless the information contained in them is first attended to and believed.
This is of particular relevance to Public Service Announcements - advertisements considered to be of “community interest”, often run or sanctioned by the Government or non-profit organizations - because these messages are typically information based and directive, and their end result is overwhelmingly to restrict, rather than enhance, choice (Wright and Palmer 1996). Creating PSAs at once clear and direct, but able to overstep the negative effects of perceived restrictions of freedom, has long been noted as a challenge for those in charge of developing such messages (Miller et al. 2007).

From a reactance point of view, the most effective way of doing so would appear to be to remove any threats to freedom altogether. However, presenting both sides of an issue, for instance, or giving less directive advice in order to reduce perceptions of threat, is not always a possibility with the sensitive topic matters of many PSAs, such as responsible alcohol consumption, smoking or protecting against sexually transmitted infections. Furthermore, there is often a concern that if the message is not clear and unequivocal enough, it may leave room for misinterpretations. Thus, some degree of threat to freedom appears inevitable in such communications.

From a construal level perspective, on the other hand, one’s approach to persuasive messages might be to use low level representations, with the intent of making the communications appear more “real” and closer to the self. Chandran and Menon (2004) show that in health communications, low level of construal message framings can help lower the self positivity bias and increase perceptions of risk with regard to hazardous health behaviours. However, low levels of construal might also have the unintended effect of making the desired behaviours appear more
unattainable, as they shift emphasis toward the potentially difficult feasibility issues involved in carrying these behaviours out.

Finally, from a persuasion knowledge point of view, the aim would be to avoid any cues to these knowledge structures, such as elements relating to ulterior motives or features that might make the message appear manipulative or unfair. These cues include threats to freedom, controlling or directive language, or any apparent vested interest in the situation. As noted above, however, creating fully balanced, impartial messages is neither always possible nor necessarily the aim with many persuasive messages, PSAs in particular.

Putting these constructs together, however, can provide clues as to what impacts on information receptivity and how this receptivity can be increased; even in situations when it is not possible to remove the presence of the threat to freedom. This is of interest, because these relationships have not previously been fully explored, and suggest important linkages between level of construal, persuasion knowledge, and reactance effects in consumers’ openness to freedom restricting messages. From a practical perspective, they offer new options with regard to persuasive message elaboration, which allow for the recommendations derived from the different theories to be reconciled.

The next chapter explores the constructs of reactance, construal level and persuasion knowledge in greater detail, by reviewing the relevant literature pertaining to each one (chapter two). Then, possible relationships between them, not yet covered in the literature, are considered and proposed in the hypothesis chapter, along with methods for testing the proposed interactions (chapter three). The following chapters
then discuss each of the three studies undertaken to determine the basic pattern of results (study one), replicate and extend those results (study two), and uncover an underlying mechanism (study three) in chapters four, five and six respectively, where study design, procedures and results are described. The general discussion chapter (chapter seven) brings together the results of the three studies, as well as their contributions and implications, limitations and avenues for further research; and chapter eight offers concluding remarks.
2. Literature Review

2.1. Introduction

Persuasion and influence attempts are ubiquitous in our day to day lives. While estimates of advertising exposure vary considerably, from approximations of 600 all the way to 3000 advertisements a day (Dahl et al. 2003), there is a consensus that this number has been progressively increasing over the years (Media Matters 2007). Whether in interpersonal settings or in the form of advertising and campaigning, there are constant pressures on our freedoms of choice and even opinion – more or less direct, more or less imposing. Psychological Reactance Theory (PRT, Brehm 1966) is a “social psychological theory dealing with people’s reactions to threatened or eliminated freedoms” (Clee and Wicklund 1980, p. 389). It addresses what happens when people are faced with influence attempts perceived to be curtailing a previously held freedom, and the relatively spontaneous motivation to restore that freedom which follows (Sherman et al. 2004).

Because in Western cultures autonomy is viewed as a basic need, and is reinforced from an early age as such, anything that acts to remove or otherwise restrict autonomy produces a negative state of arousal, and an impetus to restore the threatened freedom (Sherman et al. 2004). Thus, reactance can occur not only in discrete choice or preference ordering contexts, as in early studies of the theory, but also as a result of persuasive communications, public service announcements and social marketing messages in particular (Wright and Palmer 1996).
Reactance can be automatic (Chartrand et al. 2007), and it can also result from consumers’ inferences regarding intention to persuade, the influence agent’s motives, and/or consumers’ knowledge of persuasion and influence tactics, as per the Persuasion Knowledge Model (PKM; Friestad and Wright 1994). Thus, in reviewing the literature, we will not only look at Psychological Reactance Theory (Brehm 1966) and its application to persuasive communications, public service announcements in particular, but also at the Persuasion Knowledge Model, and how such knowledge structures can be both related to, and an antecedent of, the experience of reactant arousal.

The main thrust of this research, however, lies in the intersection of reactance theory with Construal Level Theory (CLT; Trope and Liberman 2003): in probing how perceptions of threat and resulting responses might be altered by high versus low level representations of that threat and the message in which it is contained. The third part of the literature review thus looks at Construal Level Theory, and its potential relevance and association with experiences of reactance.

The review of the literature on reactance, persuasion knowledge and construal level presented below is not, nor was it intended to be, exhaustive. Rather than attempt to present all the literature in these areas, the aim was to cover a subset of this work, which would convey important principles necessary to both understand the theories themselves, and their link to the current research.
2.2. Reactance Theory

2.2.1. Overview and Research

Psychological reactance (Brehm 1966) has been defined as a “motivational state of arousal” experienced when “a freedom is eliminated or threatened with elimination” (Brehm and Brehm 1981, p. 37). Freedom or freedoms in this context include not only actions, but also attitudes and emotions (Dillard and Shen 2005). Reactance places emphasis on “the affective (‘I don’t like it’) and motivational (‘I won’t do it!’) sides of resistance” (Knowles and Linn 2004, p. 7), and once experienced, motivates individuals to endeavour to directly or indirectly restore their lost or threatened freedoms (Eagly and Chaiken 1993).

As a pre-condition for the occurrence of reactance one must have both knowledge of the freedom, and the perceived ability to enact it prior to the threat (Brehm and Brehm 1981). Then, given the removal of, or threat to, a cherished freedom, reactance will be more intense: a) the greater the number or proportion of “free behaviours jeopardized”; b) the larger the “magnitude of the threat” (Fogarty 1997); and c) “the greater the absolute and/or relative importance of [the] threatened or eliminated freedom” (Brehm et al. 1966). This refers to the freedom’s importance to the person, as well as its “relative importance” compared to that of “other freedoms present at the moment” (ibid, p. 302). Reactance can further be magnified when a threat to one freedom is perceived as also being a threat to other cherished freedoms (Eagly and Chaiken 1993).
Initial examinations of reactance focused on choice situations, and measured the concept in terms of preference or choice reversals, whereby unavailable options became more attractive, while pressure towards a particular choice made it less popular. Brehm, Stires, Sensenig, and Shaban (1966) for instance, asked college students to rate music records, of which they would be able to keep one. Participants in the experimental condition were initially led to believe they would have a choice as to which record they would take home, but were subsequently informed that the shipment had failed to include their third ranked record. They were then asked to rank the records one more time, presumably as a measure of the effects of time on evaluations of music. As expected, “subjects for whom there was no elimination of the rank 3 record showed no dominant tendency either to raise or lower their rating of that record. On the other hand, subjects who were told that the rank 3 record was unavailable showed a clearly significant tendency to raise their rating of that record” (Brehm et al. 1966, p. 307).

Similar results were obtained by Hammock and Brehm (1966) using child participants, who were asked to rank a set of candy bars in exchange for receiving one of them at the end of the session. Removing their freedom to choose which would be the prize/reward candy led the children to reduce their ratings of the candy bar imposed on them (in a repetition of the ranking exercise) while the eliminated option increased in attractiveness.

In yet another study, Brehm and Sensenig (1966) had participants choose between pairs of pictures, while receiving notes, ostensibly from other participants in the study. In the low threat condition, the note simply stated the (ostensible) other participant’s
preference, but in the high threat condition it read “I think we should both do…” As expected, this led to a significant rejection of the proposed painting; an effect which the authors note, is “not subtle: the dependent measure tapped only the all-or-none effect of complete acceptance or rejection of the attempted influence rather than a graded tendency toward rejection. Nor could it be said that the threat to freedom was particularly strong and compelling” (Brehm and Sensenig 1966, p. 706). This rejection of a forced alternative, and increased attraction to an eliminated or proscribed option, represent what has been termed a “boomerang” effect (Brehm and Brehm 1981).

Beyond these early examinations of reactance which sought to establish the effect and its boundaries, the theory has been applied in a variety of different contexts. Jones (1970), for instance, showed how reactance could reduce helping behaviours, in situations where a high level of need for help was perceived as an imposition on freedom and/or when the plea was seen to carry “with it the possibility that the stimulus person would again be dependent on the subjects’ aid in the future” (p. 127). Goodstadt (1971) also applied reactance to helping, and demonstrated how a simple statement perceived by participants to carry with it a judgment as to how much they would help a confederate, led them to behaviours in the opposite direction.

Of greater interest to the current research, however, are the applications of reactance to consumer behaviour and persuasive messages – warnings and public service announcements (discussed in section 2.2.3) in particular. Mazis (1975), for instance, applied the concept of reactance in a field study conducted shortly after the introduction of an anti-phosphate law in Miami. This law disallowed the sale and use of products - such as laundry detergents, for example - containing phosphates. Critically,
there were few no-phosphate alternatives available at the time, which meant that consumers’ choices were effectively being restricted.

It was expected that this reduction in freedom of choice would make the unavailable options appear more attractive. Indeed, in comparison with subjects from the control city of Tampa, Miami residents were both more favourable to phosphate laundry detergents, and less favourable to regulation and its ability to be useful or successful in controlling water pollution. Significant differences also emerged within the Miami sample, between those shoppers whose habitual brands immediately brought out non-phosphate versions of their products and those whose brands did not. The greater constraint on choice faced by those unable to buy their habitual brands led them to be more reactant.

Another examination of constraints to freedom in the retail context examined the effects of imposing a limit on the number of units of a particular product customers were able to purchase. Lessne and Notarantonio (1988) presented participants with a “sale circular” offering a special deal on soft drinks, but in which the maximum number of units of the promotional product shoppers were allowed to purchase was manipulated to be either two, four, or in the control condition, no limit. As per reactance theory, constraining choice to four units increased the product’s attractiveness to participants, as well as their purchase and purchase quantity intentions vis a vis the control condition.

A two unit limit, however, did not have the same effect, since over-restrictiveness can actually reduce product desirability (Lessne and Notarantonio 1988). This is
parallel to the tension produced in persuasion contexts containing a threat to freedom, between the forces of persuasion, which influence targets toward the proposed idea or action, and reactance effects, which push targets in the opposite direction. When reactance effects fully outweigh persuasion, attitudinal or behavioural boomerangs result; when they do not, the effect of reactance can typically be gauged in terms of differences in the extent of persuasion or acceptance of a message or position. In the current research, reactance is measured in terms of consumers’ openness or receptivity to message information.

Another application of reactance to situations of reduced consumer choice was carried out by Fitzsimons (2000), in an analysis of the impact of stock-outs. Being exposed to this situation not only had significant effects on decision satisfaction, but reduced the likelihood that the consumer would subsequently return to the “offending” store (i.e. it increased store switching behaviour). This was particularly true for consumers who were more personally committed to the unavailable alternative – those who had included it in their consideration set, or for whom it constituted their preferred option.

Reactance has also been found to produce counter-intuitive results, as in the case of expert advice. While expert recommendations would generally be expected to have a positive impact on consumers’ decision making processes, by helping reduce “the effort required (…) as well as the uncertainty surrounding a decision” (Fitzsimons and Lehmann 2004, p. 82), this was found to hold only when the recommendations were in favour of a dominant, or against a dominated, option. When the recommendations did not conform to this pattern, consumer satisfaction levels decreased; and when a
dominant alternative was recommended against, there was actually “a ‘reactance style’ response”, which created a “backlash”, such that there was an “increase in choice of the option that was recommended against” (ibid. p. 82).

Reactant responses can also be consequential to ethical consumer behaviours. Miyazaki, Rodriguez, and Langenderfer (2009) related reactance effects resulting from scarcity to consumer willingness to purchase counterfeit products. The authors found, across three different settings, the authors showed that scarcity influences “the degree to which consumers are willing to condone and/or participate in the purchase of pirated products” (p. 81), such that this willingness increases with unavailability.

It is worth noting that while reactance as initially proposed by Brehm (1966) referred to situational responses to threats to freedom, it has since been found to vary over the life cycle, and across individuals as well. The experience and intensity of reactance have been argued to fluctuate during the course of one’s life, such that they are particularly pronounced in certain phases, such as adolescence, the teen years or the “terrible twos” (Miller et al. 2007). “Trait” or “dispositional” reactance is an individual difference variable, measurable through specific scales, such as the Hong Psychological Reactance Scale (Hong and Faedda 1996).

Individuals scoring high on this scale are considered high in trait reactance, and accordingly show greater sensitivity to threats to freedoms, and greater attempts at freedom restoration, than their low trait reactance counterparts. In smoking behaviours, for instance, trait reactance has been identified as “an important predictor of smoking initiation among adolescents” (Miller et al. 2007; Miller et al. 2006). It has
also been shown to impact on patient compliance (Fogarty 1997), and even on the kind of rewards people seek: Kivetz (2005) found that high trait reactance individuals tended to seek more effort-congruent rewards than their low threat counterparts.

Although the studies presented above, whether relating to situational or trait reactance, focus mainly on boomerang effects, in either behaviour (e.g. helping) or attitudes (e.g. choice ratings), there are other ways to reclaim a threatened freedom. The next section outlines possible forms of freedom restoration, and focuses on reduced information receptivity as an important mode of restoration in persuasion situations such as those considered in this research. Although attitudinal and behavioural restorations are more extensively covered in the literature, receptivity to message information is an easily available and consequential form of restoring threatened autonomy which, while less well covered, deserves attention.

2.2.2. Forms of Restoration

The overriding motivation, once arousal resulting from an imposition to one’s freedom is experienced, is to reduce that discomfort. This is done by a “restoration of freedom, no matter how that restoration comes about” (Worchel and Brehm 1971, p. 294). Indeed, it is often the context which determines the form of restoration used, not only by way of the available alternatives, but also through its impact on the strength and implications of the threat.

Forms of restoration can be categorised according to who carries them out, and with regard to their visibility. Freedom restoration carried out by the target of a threat to freedom herself is labelled direct restoration, whereas when the sense of autonomy
is reinstated by a third party, the restoration is said to be indirect (Worchel and Brehm 1971). With respect to visibility, freedom restoration, or the effects of reactance, can be said to be mental or behavioural (Brehm 1972). Mental effects refer to changes in perceptions or judgments which result from threats to freedom, whereas behavioural effects refer to those attempts at freedom restoration subsequent to a threat which are observable by others (ibid).

Perhaps the most extreme reactions to threatened freedoms are the boomerang effects described in the previous section, whereby targets increase their liking of the threatened position, embrace “that attitude threatened by the proscription” (Burgoon et al. 2002, p. 216), or at a behavioural level, actually engage in the forbidden activity or conduct. Less obvious forms of restoration include “prior exercise” of a freedom or its indirect restoration.

Worchel and Brehm (1970) examined the impact of participants’ prior opinions on an issue vis a vis communicator opinions, on their experiences of reactance, and found that reactance to the high threat message tended to be higher among those participants who initially agreed with the communicator. Those originally in disagreement, tended to shift towards the communicators’ position after exposure to the message, in both its low and high threat formats. Snyder and Wicklund (1976) replicated these results, and explained them in terms of prior exercise – the idea that affirming one’s disagreement with the position subsequently threatened can provide an a priori form of restoration, which prevents “the onset of reactance in the face of an actual threat” (Snyder and Wicklund 1976, p. 128).
The concept of indirect restoration was tested by Worchel and Brehm (1971) by putting subjects in a group situation where others restored the threatened freedom. Having a confederate “restorer” in the group speaking out against the “threatener” trying to impose his choice on the participant, eliminated the reactance effects observed in the no-restorer condition (Worchel and Brehm 1971). The same held true when the participant merely observed the confederate question the position of the “threatener”, apparently acting in self interest with without even acknowledging the participant’s involvement.

Another form of indirect restoration consists of performing “a different freedom as an alternative to the one threatened” (Miller et al. 2007). Heilman and Garner (1975) illustrated this in an interpersonal context, where presenting subjects with a different freedom - a choice as to the form of compliance with a request containing a threat – served to reduce feelings of reactance and defiance; although it did not reduce the negative affective impact of the threat. Miller et al. (2007) applied the concept to freedom threatening “promotional health appeals”, and found that a simple post-script reminding readers that the ultimate decision rested with them was sufficient to lead them to rate the message as significantly less explicit and less freedom threatening than those in the control condition.

Yet another form of indirect restoration is self-affirmation, the boosting of distinct spheres of self-esteem, in order to compensate for, or reduce the defensiveness which arises from a threat to a particular aspect of the self. Although self-affirmation theory deals with threats to global self-esteem, rather than threats to freedom in particular, self-affirmation effects have been shown to also attenuate reactance effects (Steele
1988). This is consistent with the notion that the freedom or autonomy to make one’s own choices constitute an important part of the self.

Of greater interest in the context of persuasive communications, however, are the more common and easily available forms of reactance restoration, based on discounting or derogation of the threatening message or its source. These forms of direct, mental restoration are key, because they do not depend on third parties or other external circumstances, but are always immediately available in the face of a restriction on freedom. Furthermore, they can critically impact the effectiveness of persuasive communications. If these communications are not even attended to or believed, it is unlikely that they will achieve their desired results, as reflected in changes in attitudes, affect or behaviours.

On the assumption that the aim of persuasive communications is to ultimately impact behaviour, reaching this objective is a process and follows a series of steps, of which message acceptance and belief - being receptive to the message information - is the first. Krugman, Fox, and Fischer (1999) allude to three “broad criteria” for evaluating persuasive communications - those relating to actions or behaviour (“conative criteria”), those relating to emotions and attitudes (“affective criteria”), and those related to learning (“cognitive criteria”), which are “oriented to awareness, knowledge and comprehension” (p. 99). Achieving behavioural goals requires that affective and cognitive changes also take place; however, when receptivity to message information is low, the path is blocked for even these initial cognitive shifts to take place.
With these forms of mental restoration, then, the reader is closing herself off from the message content – discounting its credibility, the strength of the threat, its relevance to one’s own situation (Burgoon et al. 2002; Sherman et al. 2000), or the expertise of its source. Miller et al. (2007) point to the “long term implications” of this last form of restoration, since “the sources of reactance producing messages may lose referent power and credibility, and thus suffer diminished future influence over reactance audiences” (p. 222). This is likely to be particularly problematic in the context of public service announcements, where often the same entity is identified as the source behind various different communications (e.g. the Surgeon General in the U.S., or The Federal Government in Australia). The next section discusses Public Service Announcements, and the applicability of reactance theory to this context, in greater detail.

2.2.3. Reactance, Persuasive Communications and Public Service Announcements

As noted before, although the present research deals with freedom threatening persuasive messages in general, it is of particular interest in the context of Public Service Announcements (PSAs) – typically not-for-profit communications which “inform the public about safety and health information, community services or public affairs” (PBS 2005). Indeed, Burgoon et al. (2002) argue that reactance theory “ought to be a mainstay of the armamentarium of anyone attempting to do battle in the social influence arena” (p. 215)

This is not only because PSAs deal with important social issues, where reactance and boomerang effects can be particularly consequential; but also because such
communications are especially prone to causing reactance in the first place. Contrary to commercial advertising, campaigns “undertaken by public sector and non-profit entities are often freedom reducing”, rather than freedom enhancing (Wright and Palmer 1996). Indeed, PSAs meet all (but one) of the four criteria proposed to increase the likelihood of the onset of reactance: blatant statements of intent to influence; censorship; a vested interest in a situational outcome; and one-sided communication (Clee and Wicklund 1980). With the exception of a vested interest, since PSAs are typically thought of as being of public interest, all the other criteria are stereotypically present in public service announcements.

It is worth noting that this discussion is based on traditional or archetypical PSAs. As with any type of communication, PSAs can assume many diverse forms. Indeed, in more recent times, some of these messages and campaigns have tried to distance themselves from freedom restricting, “scare” or “shock” tactics typically associated with PSAs. An example is the “Embrace Life” campaign, made by Alexander Commercials, for the Sussex Safer Roads Partnership.

Notwithstanding, such campaigns are still greatly perceived as the exception. More typically, PSAs are associated with communicating a single acceptable position, to the exclusion of all other attitudinal or behavioural alternatives; and making the constraint on choice very clear. This can lead to reactance independent of one’s regard for the proposed course of action. Pechmann and Slater (2005) note that in certain situations message recipients may be aware of the “merits of the recommendation”, and even consider it “viable and efficacious”, but still experience reactance; because they are
not only or necessarily reacting “against the recommendation being made”, but also “the manner in which it was made” (p. 195).

Although it has long been established that the “knowledge that someone else wants to exert control or influence [our] behaviour generates motivation to resist and behave in contrary ways” (Clee and Wicklund 1980), with PSAs this influence intent is completely overt. This is a distinguishing feature of such communications. With promotional communication campaigns, “marketers, advertising agents, and salespeople often avoid making their persuasive intention explicit”, precisely because they fear that “when confronted with an obvious intent to persuade, consumers might become more easily suspicious of the ulterior motives (i.e., self-interest) behind the persuasion attempt, and so the impact of the message might decrease” (Reinhard et al. 2006), p. 249). With public service announcements, however, there generally seem to be no such concerns – the proposed position is communicated clearly, and often forcefully, with an obvious intent to persuade.

Evidence of resistance to PSAs and warnings has been uncovered in both laboratory and quasi-experimental settings. For instance, posting “no diving” signs by a swimming pool used for physical education classes by middle and high school students was found to increase intentions to dive amongst some of the students (DeTurck and Goldhaber 1991). Males and those with a history of diving into the shallow end of the pool were the most likely to notice the signs, but also the most likely to actually dive into the shallow end, as measured by self reported intentions. While acknowledging a potential role for feelings of greater self-efficacy among this group, the authors interpreted the results as a “boomerang effect”, whereby by restricting their freedom,
the signs led those for whom they were of greatest relevance to the opposite behaviour from what was intended.

Hyland and Birrell (1979) obtained similar boomerang effects for cigarette advertisement health warnings. They found that placing the statement: “Warning by HM Government: Smoking can damage your health” on a cigarette ad actually led to an increased desire to smoke, vis a vis a no-warning control group. The effects were most marked among high involvement participants, i.e. smokers rather than non-smokers. Indeed, involvement can often entail greater knowledge of an issue, but also produce greater disagreement or defiance toward it.

For instance, Unger et al. (1999) found that while awareness of anti-tobacco policies among adolescents was highest for those who smoked, support for them was lowest among this group. The authors argued that to the extent that the adolescents perceived “restrictive anti-tobacco policies as a threat to their freedom”, they may have been smoking to “reassert their personal autonomy” (Unger et al. 1999, p. 752). Robinson and Killen (1997) also found a significant association between knowledge of the warning labels on cigarette packets and levels of smoking, based on their cohort analytic study of ninth-grade high-school students in northern California.

Grandpre et al. (2003) examined attitudes toward smoking messages among middle and high school aged-children. They exposed participants to explicit and implicit messages, both pro and against the behaviour; and consistent with the notion that the very overt nature of PSAs can sometimes be in their detriment, found a main effect of explicitness. Both the implicit messages and their sources received more
favourable overall ratings than their explicit counterparts. There was also an impact of age, consistent with the life cycle perspective of reactance, in so far as the teen-aged, tenth grade respondents [15-16 years old] “felt significantly less free to make their own choices” than their 4th or 7th grade counterparts (aged 9-10 and 12-13 respectively) (Grandpre et al. 2003, p. 351)

In general, then, both involvement and high levels of trait reactance tend to lead to higher perceptions of threat and resulting motivation to restore freedom; which implies that paradoxically, reactance effects tend to be stronger for those to whom the message is of greatest relevance - high involvement participants (Liberman and Chaiken 1992; Burgoon et al. 2002). Indeed, in the absence of involvement with the issue at hand, there ceases to be a perception of threat to freedom. For instance, Bushman and Stack (1996) examined the effects of policy warnings for violent content in movies, and found no significant effects of these warnings when participants were choosing or rating films for others.

On the other hand, when participants were choosing for themselves, and there was therefore an imposition on their freedom, the presence of a warning increased subjects’ attraction to violent movies. There was further a main effect of naming (vs. not naming) the source of the warning as the US Surgeon General, such that doing so led to an increased desire to watch violent movies; presumably because identifying the source of the message as a person of authority increased the perception of threat to freedom inherent in the message.
The authors also contrasted the warning labels with mere information labels. Although both labels provided the readers with the same facts regarding the violent content of the movies, the information labels, which did not contain a threat to freedom, did not “increase viewers’ desire to watch the violent films” (Bushman and Stack 1996, p. 224). This suggests that “it is possible to convey information about the violent content of a television program without inducing reactance in viewers” (ibid, p. 224); namely, by removing the perceived restriction on viewers’ freedom.

Reactance theory has also been applied to research in other public service contexts, such as those relating to drugs and alcohol. An early analysis was undertaken by Feingold and Knapp (1977), who examined the effects of anti-drug commercials over a three week period, and found evidence of a slight boomerang effect. Although all the experimental groups in the study “tended to have a negative attitude towards drugs” (p. 25), consistent with a reactance interpretation, this attitude became less negative after repeated exposure to the anti-drug messages. Presumably, participants would have been reacting against the perceived restrictiveness of the ads, by increasing the positivity of their attitudes towards drugs. This is a particularly important effect because of the possibility that such shifts in attitudes might spill over to behaviour. With regard to alcohol, for instance, it has been shown that “beliefs and attitudes (...) are closely related associated with drinking behaviour” (Russell and Russell 2008).

Similar results have been obtained using different designs and stimuli. Czyzewska and Ginsburg (2007) examined the immediate effects of anti-marijuana advertising with a sample of first year college students. They found that after viewing the ads,
participants’ attitudes became less negative towards marijuana, and their intentions to use the substance increased. However, such boomerang effects did not occur with anti-tobacco advertisements, presumably due to floor effects, since “viewers’ average ratings of tobacco were close to the lowest end of the measurement scale” from the start, for both those participants viewing the anti-marijuana, and those viewing the anti-tobacco PSAs (Czyzewska and Ginsburg 2007, p. 123).

Bensley and Wu (1991) examined the impact of alcohol related messages. Participants were presented with alcohol messages “adapted from alcohol prevention materials in the popular press” (p. 1113) promoting either complete abstinence or controlled drinking, in either a high or low threat version. The former (high threat condition) included more dogmatic statements intended to limit perceived freedom of opinion, and ended with the statement: “any reasonable person must acknowledge these conclusions”. In the low threat condition this sentence was changed to “we believe that these conclusions are reasonable”.

Consistent with reactance theory, the high threat messages resulted both in more negative evaluations and in higher drinking intentions, with the effect being greatest for participants identified as “heavy drinkers” – i.e. those for whom the message recommendations were most restrictive of their freedom - both male and female. Ironically, these are also the groups that in a real life setting would be considered most in need of help, and to whom such a message would most likely be targeted. For male participants, consistent results were also found for a behavioural measure, taken under the guise of a beer “taste rating task” (Bensley and Wu 1991). The pattern did
not occur as anticipated for female respondents, possibly due to women’s “greater unwillingness to drink considerable quantities with strangers” (Bensley and Wu 1991).

Although such behavioural measures are typically difficult to obtain in experimental studies, other research has tried to obtain them in field settings. Engs and Hanson (1988), for instance, examined the effects of the increase in legal drinking age to 21 in the US (to which all States were obliged to comply by July 1987) on drinking patterns among college students. They found that although the proportion of students who drank decreased during the period when the change in the law was taking place, the number of heavy drinkers remained constant; and in support of reactance theory, the proportion of underage students drinking increased relative to those of legal age.

For the underage students, to whom the new law appeared as a threat, engaging in the newly forbidden behaviour provided a means of reasserting their freedom, an explanation supported by later research by Allen, Sprenkel and Vitale (1994). These authors found that “the alcohol consumption of underage students was significantly higher than their legal-age counterparts” (Allen et al. 1994, p. 37); and moreover, this difference between the age groups was not apparent in the consumption of other drugs, which were not affected by the legislation.

There is therefore robust evidence of reactance effects – the motivated search for ways to restore a threatened freedom - in a variety of contexts. The next sections examine the processes by which reactance occurs, i.e. its antecedents; and distinguish between automatic, non-conscious reactance, and those reactance effects which result
from an at least partly conscious deliberation on the threat and freedom in question. Critically, they also explore the Persuasion Knowledge Model (Friestad and Wright 1994), and its potential links to the occurrence of reactance.

### 2.2.4. Conscious and Non-Conscious Reactance

Not all threats to freedom produce reactance, but specifically those which threaten freedoms the person is aware of, values, previously possessed, and therefore feels she should possess (Brehm 1966). Furthermore, the extent of reactance experienced varies with considerations relating to the magnitude of the threat, its implications, or the relative importance of the freedom imposed on – all of which imply some degree of deliberation, and so suggest that reactance is in some measure “consciously guided” (Chartrand et al. 2007, p. 721).

Reactance can also be automatic, however. That is, it can be experienced in the absence of any “generalizations and assumptions” and without the target even consciously perceiving the reactance-evoking stimulus (Chartrand et al. 2007, p. 721). This automatic reactance results because reactance is a motivational state, and so “the frequency and consistency with which one has experienced it in a particular situation will determine whether it can be activated and guide behaviour without conscious awareness or intention” (ibid).

Experimental evidence suggests that indeed it can. For instance, when a significant other who is considered highly controlling becomes associated with a certain goal, that person can trigger reactance (i.e. engagement in the opposite goal) even when “their psychological presence is not consciously recognised by the individual” (Chartrand et
Non-conscious reactance has also been found in the context of relationships, such that externally, but implicitly “limiting people’s attention to attractive alternatives” led to detrimental relationship outcomes, such as lower reported relationship satisfaction or more positive attitudes toward infidelity (DeWall et al. 2011, p. 627).

The notion of automatic reactance is also consistent with the conception of freedom as a basic human need. According to Self-Determination Theory, there are three such “innate, essential and universal” needs, fundamental for “facilitating optimal functioning of the natural propensities for growth and integration” (Ryan and Deci 2000, p. 68). One of these is the need for autonomy (the others are the needs for competence and relatedness) – the perception “that one’s activities are endorsed by or congruent with the self” (Reis et al. 2000, p. 420). It has been argued that over time and in Western cultures in particular, this need for autonomy has become “a chronic construct that automatically guides behaviour” (Sherman et al. 2004, p. 158), and as a result, anything that threatens this ability to decide for oneself produces negative arousal and a concomitant motivation to restore the threatened freedom, i.e. reactance. Because this is a “motivated response”, it can happen “without conscious mediation or awareness” (ibid, p. 157), particularly when it affects areas of people’s lives for which they “have distinct and strong preference to see themselves as masters of their own fate” (Burgoon et al. 2002, p. 216).

The need for autonomy can also give rise to more deliberate forms of reactance, however, because it affects perceptions and interpretations of contexts and objects (Deci, Koestner, and Ryan 1999). This is the more commonly studied form of reactance,
in which there is some level of “cognitive elaboration” with regard to the threat and its context (Chartrand et al. 2007, p. 721). In this conception, reactance occurs because the imposition on freedom is recognised as such, and produces resistance in the form of attempts to restore that freedom.

There is much research evidence showing that people do not like to feel pressured, and that awareness of an influence attempt reduces its effectiveness. For instance, Ewing (1942) manipulated the way in which an extreme communication was introduced to subjects. He found that “those subjects who expected the communication to disagree with their opinions were actually less influenced by it”; but exactly the same communication was “more effective if the audience falsely anticipated that it would support their existing views” (Festinger and Schachter 1989, p. 469). Presumably, the expectation that the communicator held an opposite view to their own and would be trying to influence participants, led participants to greater resistance to that persuasion (ibid).

Walster and Festinger (1962) studied the impact of “overheard communications”. The authors found that for highly involving issues, communications thought to have been “overheard” were more persuasive than those in a “regular” condition where the speaker was presumably aware that he was being listened to. They interpreted these results in terms of intent to influence, since “if a speaker is seen as intending to influence one, then suspicions concerning possible ulterior motives may serve to nullify the possible effectiveness of the communication”. But because the listener’s assumption in the “overheard” condition is that “the speaker does not know anyone is
listening, it is not conceivable that the listener, knowing this, could imagine that the speaker intends to influence him” (Walster and Festinger 1962, p. 401).

It would appear, therefore, that with respect to the causes of reactance, a continuum is formed – at one extreme there is an automatic form of reactance, in which both the trigger and its effects occur non-consciously; and at the other extreme are experiences of reactance resulting from conscious processing about the influence attempt or threat to freedom, its implications, where it is coming from and the ulterior motives behind it. Interest here rests in these more conscious forms of reactance, in particular, those instances in which it results from the use of persuasion knowledge; such that when persuasion knowledge is activated the experience of reactance increases, and when it remains unused, reactance effects are mitigated. In the current study, the detail at which a message is considered is shown to influence persuasion knowledge use and the level of reactance experienced, as measured by information receptivity. The Persuasion Knowledge Model, and its implications for reactance in particular, are discussed in the next sections.

2.3. The Persuasion Knowledge Model

2.3.1. Overview

The Persuasion Knowledge Model (Friestad and Wright 1994) is a conceptualisation of persuasion episodes not as one-way attempts to influence, but as the result of a “dyadic interaction between the persuasion agent and the target” (Kirmani and Campbell 2004, p. 574). In this formulation, persuasion targets are not passive recipients of persuasion efforts, but active and “resourceful participants who
pursue their own goals” and have their own “repertoire” of “response tactics”, parallel to the portfolio of persuasion tactics possessed by persuasion agents (Friestad and Wright 1994).

The idea is that people “develop personal knowledge about the tactics used in (...) persuasion attempts” over time, from “conversations about how feelings, attitudes, etc. can be influenced; individuals’ social interactions, observation of known persuasion agents; from commentary on persuasion in the media”, and critically, also from “firsthand experience in social interactions” (Friestad and Wright 1994). This refers not only to those interactions in which one is the persuasion target, but also those in which one is the agent, since “in everyday life, people often move rapidly and fluently” between the two roles (ibid, p.3).

Persuasion knowledge is thus “to some degree, historically contingent”, influenced by the particular moment in time and the culture in which it is developed (Friestad and Wright 1994, p. 1); and as the product of experience, it is also expected to increase with age. As people get older, then, they typically become more adept at using their persuasion knowledge to “identify how, when, and why” persuasion attempts are taking place. Persuasion knowledge is active and consequential during the persuasion attempts, and allows targets to “adaptively respond” to them (ibid).

Thus, the same way communicators have a plethora of persuasion tactics, so do individuals develop their own repertoire of persuasion coping tactics, based on their knowledge of: a) the agent (“beliefs about the traits, competencies, and goals of the persuasion agent”); b) the topic (“beliefs about the topic of the message”); and
crucially c) persuasion itself (Friestad and Wright 1994, p.3). This knowledge then "performs schemalike functions", "guiding consumers’ attention" and allowing them to make inferences and predictions with regard to the persuasion attempt, its underlying motivation and rationale, and its potential effectiveness (Friestad and Wright 1994).

The use of these knowledge structures can, for instance, lead agent actions previously perceived as innocuous, to be re-interpreted as "tactics", leading to a "change of meaning": “a significant event that fundamentally alters many things in the way in which a target will respond to this, and other, persuasion attempts” (Friestad and Wright 1994, p. 13). Thus, within the PKM persuasion attempts are not limited to “the message” (as defined by the persuading agent), but include “the target’s perceptions of how and why the agent has designed, constructed, and delivered the observable message(s)” (ibid, p. 2).

Within the model, coping refers to the manner in which persuasion targets manage influence attempts, and in the model it is “neutral with respect to the direction of the target’s response” (Friestad and Wright 1994). Thus, coping does not necessarily imply "greater resistance", but rather “greater control” (Obermiller and Spangenberg 1998, p. 163): the targets’ aim is to “maintain control of the choice of how to respond to persuasion attempts” (Coulter, Cotte, and Moore 1999, p. 290) in order to “achieve whatever mix of goals is salient to them” (Friestad and Wright 1994, p. 3).

Notwithstanding this theoretical neutrality, persuasion knowledge is generally associated with resistance, greater scepticism and having one’s “guard up” (e.g. Boush,
Friestad, and Rose 1994; Goldberg et al. 2006; Williams et al. 2004). The activation of persuasion knowledge typically produces a greater scrutiny of the persuasion situation; and this is particularly likely to be the case when the situation or message is perceived to be restricting “control over the outcome”, or if the persuasion tactics used and/or the motivations inferred to lie behind them, are perceived to be inappropriate. These “appropriateness beliefs” (Wei et al. 2008, p. 35) relate to the moral and normative acceptability of the tactics used (Friestad and Wright 1994), and to whether the persuasion agent is resorting to “inappropriate, unfair, or manipulative means” to achieve her goals (Campbell 1995, p. 227). The reason is that in such situations there are more salient cues for the activation of persuasion knowledge.

Consistent with this, the “underlying belief” in much of the literature, particularly that pertaining to covert marketing activities such as product placement, is that “people tend to resist attempts at persuasion when they recognise them as such” (Wei et al. 2008, p.35). Empirical research backs this up for sales contexts, with results showing that “triggering persuasion knowledge—by heightening consumers’ awareness that an agent is trying to influence them—negatively affects the efficacy of sales tactics (Brown and Krishna 2004; Campbell and Kirmani 2000; Morales 2005)” (ibid. p. 34).

In fact, this negative effect may even extend beyond what would be objectively warranted by the situation. Main, Dahl, and Darke (2007) show the operation of sinister attribution errors “in consumer judgments regarding the behavior of sales agents” (p. 59), such that consumers “continued to distrust a compliment offered by a salesperson even when the ulterior motive was not plausible”; for instance, when the
compliment was given after the sale (ibid.). Such results are consistent with a “pattern of misattribution characterized by irrational distrust (Kramer, 1994)” - the sinister attribution error - which leads to excessive suspicion regarding ulterior motives (Main et al. 2007, p. 59).

2.3.2. Persuasion Knowledge Use

Persuasion knowledge is not necessarily used, or used to the same extent, in every persuasion attempt. Rather, in order to be applied, persuasion knowledge needs to be made accessible. Accessibility is thus key, and can vary according to the characteristics of the persuasion situation and/or of the persons involved - for instance, the presence of persuasion cues, the target’s regulatory focus, or the availability of cognitive resources. The more such features make persuasion knowledge salient, the greater the use of these knowledge structures, and typically, the lower the levels of actual persuasion accomplished.

The importance of persuasion knowledge accessibility has been demonstrated by Williams, Fitzsimons, and Block (2004). The authors showed that the mere measurement effect of intention questions, whereby answering them makes people more likely to subsequently carry out the behaviours associated with their answers, results from the inaccessibility of persuasion knowledge in these situations. Because intention questions are perceived as benign and are not recognised as influence attempts, they “slip under the radar of our defences”, and fail to trigger persuasion knowledge (p. 540). If persuasion knowledge is made accessible, however, the mere measurement effect will be attenuated.
Thus, the authors found that in simple intention question conditions, or when the questions were ostensibly sponsored by an objective source, the mere measurement effect occurred as predicted. When the intention questions were sponsored by a self-interested source, however, such as the Association of Dental Products Manufacturers for a question about flossing behaviour, the mere measurement effect was attenuated; demonstrating “that a correction of the mere-measurement effect can occur when respondents’ persuasion knowledge is activated” (Williams et al. 2004, p. 544). The same attenuating effect was found when participants were forewarned with regard to the potential effects of intention questions, by reading an article abstract about the mere measurement effect (ibid).

Notably, this correction of the mere measurement effect only occurred when participants possessed the necessary cognitive resources to access their persuasion knowledge. When they were made cognitively busy, the mere measurement effect persisted (Williams et al. 2004). This is consistent with earlier research by, Campbell and Kirmani (2000) which demonstrated the dependence of persuasion knowledge use on the availability of cognitive resources. Such resources are necessary for a persuasion attempt to be recognised as such and an appropriate response determined. When they are not available, for instance because the reader is cognitively constrained, persuasion knowledge will tend to remain inaccessible; unless there is a distinct cue to trigger its use.

In the Campbell and Kirmani (2000) studies, participants high in cognitive resources made use of their persuasion knowledge independent of cue strength. For participants low in cognitive resources, however – for instance, because they were
asked to remember the order of a series of numerals (study two) - persuasion knowledge was only activated when they were primed with ulterior motives. That is, a cue needed to be available for persuasion knowledge to be accessed; whether related to the scenario used – a compliment by a salesperson offered before (vs. after) the sale was made, thus making the salesperson’s ulterior motives more salient (studies one and two) – or unrelated to the scenario and primed in an ostensibly distinct task, such as an article discussing companies’ use of charitable donations as a means of obtaining tax deductions and improving relations with customers (study three). Thus, cues do not need to be specific to the persuasion situation at hand, but simply to trigger the use of the “schemer schema” (Wright 1986) - consumers’ knowledge structures relating to persuasion. Kirmani and Zhu (2007), for instance, found that reading an article regarding corporate financial fraud was sufficient to prime participants with suspicion and thus affect the subsequent processing of advertisements for digital cameras.

The critical element is, therefore, the accessibility of the relevant knowledge structures; and as noted above, anything that makes persuasion knowledge more accessible, will increase its use; for instance, a “violation of expectations” (Ahluwalia and Burnkrant 2004). Ahluwalia and Burnkrant (2004) show that when the use of rhetorical questions in persuasive messages was highly salient as a form of “artful deviation in the style and format of the message”, it increased persuasion knowledge accessibility and led recipients to attempt to “infer ‘why’ the rhetorical was included in the message, focusing attention on the persuasion agent to interpret this violation” (p. 39). Consistent with this research, Briley, Danziger, and Li (2011) demonstrate how
entertaining promotions can also increase persuasion knowledge accessibility and use, in so far as they constitute a different form of violating expectations, because they do not “fit within consumers’ normal routines” (p. 6). Participants were both “more aware of being influenced” (p. 11) and sensed a “stronger influence intent when promotions [were] more entertaining” (p. 13). The authors also found a significant impact of level of self-determination, such that entertaining promotions were less effective for those with high levels of self-determination, i.e., “strong desires to guide their own destinies and, consequently, to avoid having their choices influenced” (p. 17).

This suggests that persuasion knowledge accessibility is not only determined by the persuasion situation, but may also depend on individual differences. Kirmani and Zhu (2007), for instance, show that a prevention (vs. promotion) orientation makes the activation of persuasion knowledge more likely. A prevention orientation increases sensitivity to cues of manipulative intent, and as result increases the perceived diagnosticity of such cues. Because in a prevention orientation the aim is to guard against losses, and this focus “naturally generates vigilance”, any indication of manipulation in such a condition increases in salience. In a promotion focus, by contrast, the aim is to promote gains, therefore vigilance is only generated if suspicion is unambiguously primed. These effects are furthermore independent of “depth of processing” and thus refer to a trigger of persuasion knowledge use distinct from cognitive capacity (Kirmani and Zhu 2007, p. 696-7).

In the studies by Kirmani and Zhu (2007) ambiguous cues, which made manipulative intent “moderately salient”, were interpreted by prevention oriented participants with suspicion and vigilance, and led to lower brand evaluations; whereas
for the promotion oriented participants, strong cues and/or an external suspicion prime were necessary to produce these effects. Greater persuasion knowledge accessibility therefore tends to be associated to lower levels of persuasion; and where the activation of these knowledge structures leads to perceptions of inappropriate persuasion tactics, it may even lead to reactance.

Indeed, Koslow (2000) suggests that “both the schemer schema and anticipation of a change-of-meaning event”, i.e. persuasion knowledge, “can be thought of as types of psychological reactance” (p. 247). However, while reactance focuses on the motivational aspects resulting from exposure to a threat to freedom – the resulting arousal and motivated need to restore that freedom (Brehm 1966) - persuasion knowledge uses a cognitive framework guided by memory principles (e.g. Wyer and Srull 1989). We experience and learn about persuasion over time, and as a result, develop knowledge structures which can be called upon in persuasion episodes. Thus, our response to such episodes does not only depend on our knowledge of the topic and the persuasion agent, but also on our knowledge regarding persuasion itself (Friestad and Wright 1994).

When this knowledge is more accessible, persuasion knowledge use is greater, and the likelihood of persuasion smaller. At the extreme, where persuasion knowledge is made highly accessible, via a restriction on one’s freedom for instance, and this restriction is perceived as inappropriate or manipulative, persuasion knowledge use might plausibly even lead to shifts in the direction opposite to that intended by the persuasion agent – i.e. boomerang effects.
It would seem, then, that in order to reduce reactance to persuasive messages, it would be necessary to reduce the restriction of freedom (i.e., the threat contained in the message), lower the accessibility of persuasion knowledge, or both. The proposition in this research is that one way in which this may be achieved with regard to freedom threatening persuasive messages is by altering the individual’s psychological distance from that message and its recommendations; i.e. through the level of construal at which persuasive messages are represented and processed. The following sections describe construal level theory in greater detail.

2.4. Construal Level Theory

2.4.1. Overview

Construal Level Theory (Liberman and Trope 1998; Trope and Liberman 2003) deals with psychological distance. It is concerned with the manner in which people “transcend the here and now” (Trope and Liberman 2003). The theory does not deal with actual distances, for instance between two objects, but rather with egocentric distances, where the self is always the point of reference (Stephan, Liberman, and Trope 2010). The focus is then on the manner in which these distances, be they temporal, spatial, social or in “hypotheticality” (ibid.), affect representations of objects and events, as well as the resulting interpretations, evaluations and judgments made of them. According to CLT, there are variations in these resulting interpretations between construal conditions which are both systematic and predictable: when psychological distance from an event is low, it is correspondingly represented in terms
of low level construals; and when psychological distance is large, high level construals are used.

2.4.2. High vs. Low Construals and Dimensions of Distance

The critical distinction in CLT is then between high level construals, which are nonfigurative and lacking in detail, and low levels of construal, which constitute more tangible, detail-rich representations. High level construals “consist of general, decontextualised features that convey the essence of information” (Trope and Liberman 2003). They are “abstract, coherent, and superordinate mental representations” which tend to be “simpler, less ambiguous, more coherent, more schematic, and more prototypical than concrete representations” (Trope and Liberman 2010). Low level construals by contrast, “include more concrete, contextual, and incidental details” (Trope and Liberman 2003), and “lend themselves to multiple abstractions” (Trope and Liberman 2010, p. 441). They furthermore tend to have “immediate, obvious, and direct implications for behaviour”, whereas high distance events tend to produce more distant and indirect implications (Kardes et al. 2006, p. 136).

According to Trope and Liberman (2010), two criteria determine which elements of an event will be given greater consideration at high vs. low levels of construal: centrality and subordination. Centrality refers to a feature’s impact on meaning, which is greater for high (vs. low) level features of objects or events; and subordination refers to the dependence between representations, the fact that “the meaning of low-level features depends on high-level features more than vice versa” (ibid, p. 441). Thus, more distant, high level representations tend to include more central and super-
ordinate features of objects or events, while low level representations also encompass less central, goal-unrelated characteristics, and subordinate categories (Eyal et al. 2004).

This holds regardless of the dimension of distance considered. Typically, “four major dimensions” have been considered – “temporal, spatial, social and certainty-related distance” (Fiedler 2007, p. 102), with a majority of studies focusing on the temporal dimension. However, other dimensions have also been proposed, such as informational distance (“the amount of knowledge or relevant data the consumer possesses about the decision options”), experiential distance (related to whether the information possessed is first hand or not), affective distance (for instance, if the information is obtained in “warm” or “cold” sources) and perspective distance (related to the “cognitive and motivational state” experienced in later stages of decision making) (Fiedler 2007, p. 102).

With regard to the main dimensions of time, space, social distance and certainty or hypotheticality, however, research shows that they are all inter-related. Thus, “remote locations should bring to mind the distant rather than the near future, other people rather than oneself, and unlikely rather than likely events”, while the converse holds for proximal locations: they are related to the near future or past, low social distance and expected events (Trope and Liberman 2010, p. 442). The reason is that the underlying construct is always the same - psychological distance; and these mental associations between the different dimensions of distance have over time become bi-directional and automatic.
Bar-Anan et al. (2007) demonstrated this point by measuring time-latency reactions to a picture-word Stroop task. The authors found that participants’ response times were shorter when they received “distance-congruent stimuli (in which a spatially distant arrow contained a word that denoted temporal distance, social distance, or low likelihood, or a spatially proximal arrow contained a word that denoted temporal proximity, social proximity, or high likelihood)” than when they were presented with “distance-incongruent stimuli (in which a spatially distal arrow contained a word denoting proximity, or a spatially proximal arrow contained a word denoting distance)” (Trope and Liberman 2010, p. 442). Similarly, Stephan, Liberman, and Trope (2010) found that the use of more formal and polite language, typically associated with greater interpersonal distance, led participants to expect the communication target to be further away in both time and space, than when the language used was more colloquial. And vice versa: more polite language was used in writing when it was perceived that the target would receive the message in the distant versus near future.

Parallel to these automatic associations between the different dimensions of distance, there is also an automatic association between distance and level of construal. This has developed over time as the result of overgeneralised heuristics (McCrea et al. 2008). Our most concrete and detailed knowledge is about the present, the here and now; and the further away we move from this present experience, be in time, space, social distance or through conjecture, the more that detail dissipates and knowledge becomes abstract and decontextualised (Liberman et al. 2007). Over time, this rule of thumb has not only been overgeneralised, but has also generated an
implicit association between distance and level of detail or concreteness. We continue to apply this heuristic even in the absence of the original reasons which produced it (Trope and Liberman 2003; Liberman et al. 2007; Waksal et al. 2006); when the same level of information is available for different levels of distance (e.g. for the near vs. distant future) (Liberman et al. 2007); and often do so automatically, “without conscious deliberation” (Trope and Liberman 2010).

Bar-Anan, Liberman, and Trope (2006) measured these associations using Implicit Association Tests, and found consistently faster response times when participants were presented with congruent than with incongruent pairings of words. Furthermore, this held for all dimensions of distance, which were examined via “the same method and demonstrate[d] similar results across the four dimensions” (p. 617). This results show that this association is not only automatic, capable of being activated “without conscious deliberation”, but is also “independent of any specific context or target of construal”.

A different perspective on these relations is presented by Fiedler (2007). The author accepts the association between dimensions of distance and levels of construal, but questions the argument that they originate from over-generalisations, “overlearned distance associations, detached from any difference in stimulus information” (p. 105). Instead, the author proposes an alternative explanation based on the “inequality of information about distal and proximal objects”, arguing that even in situations when the objective information available (for instance, that provided by the experimenter) is the same, “the effective stimulus sample (...) may still differ
markedly, due to self-generated inferences, associations and memorised knowledge” (Fiedler 2007, p. 105, emphasis added).

Independent of what gives rise to it, however, research shows that there is an association between distance and level of representation, that is it implicit, and also bi-directional. Not only are more distant events and objects represented at higher levels of construal – in a more abstract way and focusing on the objects’ more central features; but at the same time, more abstract or de-contextualised descriptions of an object or event, focusing on central and super-ordinate features, cause it to be perceived as being further removed from the self. By the same token, less distant events tend to be represented at lower levels of construal, and lower level representations lead to perceptions of greater proximity (Liberman et al. 2007). Liberman, Trope, McCrea and Sherman (2007) empirically demonstrated this with regard to temporal distance, while Stephan et al. (2010) extended the finding to spatial and social perspectives as well.

Of greater interest, however, is the manner in which these associations then operate to systematically influence the way “judgments, predictions, and choices” regarding objects and events are made (Trope and Liberman 2003). Trope and Liberman (2010) refer to these effects as the “construal mediated consequences of distance” – the way distance, through its impact on the level of construal at which objects or events are represented, affects perceptions, interpretations and decisions pertaining to those events.
2.4.3. Construal-Mediated Consequences of Distance

There are, then, regular and predictable effects which occur by virtue of the way in which events are construed at different levels of psychological distance; namely, by the shift in focus and relative weighting of high (vs. low) level features which occurs at greater (vs. shorter) distances respectively. An example of these effects is the well documented “planning fallacy” (Kahneman and Tversky 1979), the tendency to over-predict performance, and under-predict the time required for completion, when considering distant future tasks. From a construal point of view, this bias can be understood as the result of an “over-reliance on schematic models of future behaviour” (Nussbaum et al. 2003). Distant events are represented in terms of high level construals – they are abstract and lacking in specificity – and as a result, fail to consider contextual details which might interfere with task completion or performance, which then leads to over-confidence with respect to both how well and how quickly tasks will be performed (Nussbaum et al. 2003; Liberman and Trope 1998).

The planning fallacy represents an instance of the effects of distance (via construal level) on prediction. Another example of this effect relates to predictions of reactions to future events. In general, we anticipate our reactions to future events, both positive and negative, to be far more extreme than they actually are, because at high levels of construal, we underweight “the effect of diluting low-level contextual circumstances” (Trope and Liberman 2010). This also explains why people tend predict that their moods will be consistent with time of day (or day of week) stereotypes, or recall them as such when remembering the past, but do not follow these patterns when the
measure is of momentary moods actually experiences at each time of day or day of the week (Areni 2008; Areni and Burger 2010).

Distant events tend to be “construed in terms of general theories, stereotypes, and the desirability of possible outcomes” – for instance, the notion that “moods are lowest on the morning and rise steadily throughout the day on workdays” (Areni and Burger 2010, p. 5), or day of the week stereotypes, such as the “Monday blues” or “TGIF - Thank God It’s Friday” (Areni 2008, p. 1229). Thus, predictions of future moods tend to be aligned with these stereotypical cycles, but actual moods do not necessarily follow the same pattern: “returning to work on Monday morning may not seem very promising when viewed a few days in advance, but on the morning itself, moods may be driven more by some specific event (i.e. an email containing good news) rather than the prospect of returning to work” (Areni and Burger 2010, p. 5).

Nussbaum, Trope, and Liberman (2003) further illustrated the impact of construal level on predictions, through an ostensible general knowledge quiz. The authors found that when the quiz was to be taken on the same day, participants’ confidence in their predictions of their performance in the quiz was “appropriately reduced” by its level of difficulty (a low level aspect). When the quiz was to be taken two months later, however, this reduction was not observed. Participants were focusing less on this low level feature and instead placing more weight on the high level feature of their own level of personal knowledge on the different domains of the quiz, which accordingly constituted a better predictor of participants’ level of confidence for the distant (vs. near) future condition (Nussbaum et al. 2003).
Psychological distance can also affect behavioural intentions, self regulation, and of particular interest to the current study, evaluations and choices (Trope and Liberman 2010). This is because such choices or preference ratings are made on the basis of objects’ construals or representations, rather than the objects themselves (ibid); and as distance increases, “the weight of high-level construals becomes more important than the weight of low-level construals in determining preference” (Trope and Liberman 2000). This concept has been exemplified using different characteristics of high vs. low level construals, such as the centrality of object features, the emphasis on desirability (vs. feasibility) and the kinds of arguments considered (pro vs. con).

With regard to centrality of features, it has been shown that goal-related, central features of an object or situation receive greater weighting when a decision is being made for the distant future, while peripheral, non-goal related features should be emphasised at low levels of distance and construal (e.g. the near future). For instance, Trope and Liberman (2000) found that over time delay, an interesting job with an uninteresting training period increased in attractiveness vis a vis an uninteresting job with an interesting training period. Similarly, given a choice between a radio with good sound quality but “a poor in-built clock and a radio that has poor sound but a good clock”, respondent’s preferences were found to be tied with the supposed moment of decision making, “tomorrow” vs. “a year from now”: “over time delay, the good radio became more attractive despite the poor clock, and the poor radio became less attractive despite the good clock” (Trope and Liberman 2000).

A related shift in focus which occurs as representations move from lower to higher levels of construal pertains to desirability vs. feasibility considerations. Desirability
refers to “the valence of an action’s end state, whereas feasibility refers to the ease or difficulty of reaching the end state” (Liberman and Trope 1998). Desirability is a high level feature, pertaining to why actions are carried out, and feasibility is a subordinate level feature, which considers how an action will be put into effect. According to construal level theory, then, desirability considerations should be more heavily weighted at high levels of construal or psychological distance from an object, and feasibility concerns should be more heavily weighted when psychological distance is low.

Empirical research shows this to be the case (e.g. Liberman and Trope 1998; Todorov et al. 2005). For instance, students selecting assignments for the near future, “were willing to sacrifice interest for the sake of ease”; but when choosing for the distant future, sacrificed “ease for the sake of interest. This shift in preferences over time occurred despite the fact that students had the same amount of time (one week) to prepare” for both assignments (Liberman and Trope 1998). The authors explain that “when outcomes are desirable but hard to obtain, attractiveness increases over time, but when outcomes are less desirable but easy to obtain, attractiveness decreases over time” (ibid, p. 11). In another example, pertaining to the installation of a word processor, this shift was reflected in participants’ stated likelihood of installing the software. When it was to be done in the distant (vs. near) future, the quality of the word processor – a desirability consideration - had a significantly greater impact on the decision than the associated learning time – a lower level feasibility consideration (Liberman and Trope 1998).
Psychological distance can also affect evaluations and choices through the types of arguments that are given primacy at high versus low levels of construal – those in favour (pros) and those against (cons) an action respectively. Eyal, Liberman, Trope and Walther (2004) propose that “cons are subordinate to pros”, and as such, constitute a lower level of construal. Accordingly, results across a series of studies showed that “pros become more salient as temporal distance from the action increases, whereas cons become more salient when temporal distance decreases” (p. 781). For instance, in considering arguments in favour and against various interpersonal behaviours (such as spending time with a fellow student at a cafeteria or asking that student why she or he looked troubled), participants not only wrote down more pros and less cons for the distant (vs. near) future condition, but their subjective likelihood of performing the behaviours also increased in the distant future, an effect “mediated by the effect of time on the preponderance of pros” (Eyal et al. 2004).

It is important to note that these results do not imply that options or events are more positively valued at greater levels of psychological distance from them. Rather, the predictions of CLT pertain to the salience and level of emphasis placed on high vs. low level construals – in this case, pro vs. con considerations - at greater vs. smaller distances respectively. The actual significance placed on an alternative “depends on the value associated with high-level and low-level construals of the option. Specifically, when the value associated with high-level construals is more positive than that associated with low-level construals, the attractiveness of an option should increase with temporal distance. In contrast, when the value associated with low-level
construals is more positive than that associated with high-level construals, the attractiveness of an option should decrease with temporal distance” (Eyal et al. 2004).

With that caveat, the authors also relate the differential focus on pro versus con considerations over time to persuasion. They suggest that persuasive messages might benefit from emphasising advantages when they refer to distant future events, while for near future events it would be more beneficial to de-emphasise disadvantages (Eyal et al. 2004). From the point of view of the current research, however, the interest would be in understanding how the emphasis on pros or cons might impact on openness to freedom threatening persuasive messages. Because the presence of a threat to freedom alters consumers’ motivations, it is not clear what this impact might be. Emphasis on pros may lead consumers to give greater consideration to the arguments in favour of a particular action or behaviour, and so increase information receptivity; but their association with high levels of construal may also make the message appear more distant, less personally relevant and for less immediate consideration, thus lowering information receptivity.

An issue that arises from these construal mediated consequences of distance is whether the resulting preference and choice inconsistencies can be overcome. Zhao, Hoeffler, and Zauber- man (2007) show that this is possible through the use of mental simulations (outcome and process), which can serve to neutralise the impact of construal level.

Outcome simulations “encourage people to think about the desirable outcome of fulfilling the goal”, while process simulations “encourage people to imagine the step-
by-step process of reaching a certain goal” (Zhao et al. 2007, p. 380). In effect, these two types of simulation emulate the automatic prominence given to outcomes and goals at high levels of construal, and to processes and feasibility consideration at low levels of construal respectively. Thus, mentally simulating the “naturally neglected processing mode” can eliminate the temporal preference inconsistencies typically encountered in construal studies. For example, “thinking about the process of setting up and using a software package (in three months) ultimately led consumers to think as if they were choosing the software today. Thinking about the long-term benefit of the project (when making an immediate decision) ultimately led consumers to think more as if they were making a future decision” (Zhao et al. 2007).

In addition to its impact on predictions and preferences, psychological distance can also affect behavioural intentions through construal level, via the same mechanism of shifts in focus toward high (vs. low) level features of events or behaviours as distance increases. Eyal, Sagristano, Trope and Chaiken (2009) found that values are better predictors of behavioural intentions for the distant (vs. near) future, because they are “abstract and de-contextualised” structures (Trope and Liberman 2010, p. 453); i.e. high level features, more likely to be attended to when psychological distance is greater. Thus, participants placing a high value on hedonism were more likely to plan hedonic activities for the distant future, whereas for the near future feasibility concerns became better predictors of intentions (Eyal et al. 2009).

Fujita, Trope, Liberman and Levin-Sagi (2006) related level of construal to self control, suggesting that high level construals should lead to greater self control than low level construals, because they “cause high-level features to be weighed
preferentially in evaluations and decisions”, which in turn leads individuals “to make decisions and act in accordance with their primary, central objectives and not secondary, incidental factors” (p. 353). Their results supported this view: “shifts in the construal level by which individuals considered a situation had dramatic effects on their self-control decisions and behaviours” (Fujita et al. 2006b, p. 363). Participants primed with high levels of construal by being asked to consider why (rather than how) they engaged in actions, showed both a reduced preference for immediate (vs. delayed) outcomes (study one), and greater physical endurance, as measured by the amount of time they were able to maintain a handgrip closed (study two). Altogether, the results of their studies showed that participants “at a low level of construal became more myopic and motivated by low-level concerns, whereas those at a high level of construal exerted more self-control and acted in accordance to higher level considerations” (Fujita et al. 2006).

Zhang, Huang, and Broniarczyk (2009) took this a step further, and showed that people can actually strategically alter their construal of events in order enhance self-control and facilitate decisions consistent with long term goals. According to the authors, “by perceptually exaggerating the extent to which the temptations may undermine goal attainment, consumers are more likely to resolve the self-control conflict in favour of the long-term goal by avoiding the temptation” (Zhang et al. 2009).

2.4.4. Construal Effects in Different Contexts

In addition to the construal mediated effects of psychological distance discussed above, all of which could be seen to bear some implication for persuasive communications (discussed in the hypotheses chapter) construal level theory has also
been applied to a variety of other contexts and constructs. While not exhausting the list, some of these applications are described below, such as for instance, the impact of construal level on creative thinking, or the relationship between construal level and power.

With regard to creativity, Forster, Friedman, and Liberman (2004) showed that construal level can influence insight and creative performance, such that these measures are enhanced at high (vs. low) levels of construal and distance. According to the authors, the effect results from “transfer appropriate processing shifts” (p. 179); i.e. a beneficial transfer of cognitive resources activated in one task to a subsequent one. According to the authors, the shift towards abstract mental representations (i.e. high level construals) which occurs when considering distant objects or events does not immediately dissipate, and so can transfer to subsequent tasks. This leads to improved performance on “creativity tasks, which require abstract thought”, but hinders performance for “analytical tasks which require relatively concrete processing” (Forster et al. 2004, p. 185).

Smith and Trope (2006) examined the relationship between construal level and power. Their results indicated that those with power tend to use higher level construals than those without. The authors argued that “the ability to see the bigger picture, to plan ahead, to keep an eye on higher goals, may be prerequisites for obtaining power as well as requirements for maintaining it” (Smith and Trope 2006, p. 579). Furthermore, there is a greater sense of independence and uniqueness associated with power, which inclines those who have it toward more distal perspectives. As a result, power has become automatically associated with more
abstract processing; and merely priming participants with high (vs. low) power proved sufficient to lead them to more abstract processing of information (ibid).

Construal level theory has also been applied to feedback preferences, and the goals associated with personal feedback. Freitas, Salovey, and Liberman (2001) found that people tend to seek more accurate self evaluations at high (vs. low) levels of construal, when more weight is placed on the “central aim of self evaluation” (p. 420). When the process of self evaluation is considered for more immediate circumstances, however, self enhancement goals prove a greater influence on feedback preference than concerns over accuracy (Freitas et al. 2001).

High level construals have also been found to be related to positive emotions: “independent of one’s self-esteem, one’s perceived meaning in life, and one’s focus on one’s goals, construing action abstractly was found to relate to experiencing positive affect” (Freitas, Clark, Kim and Levy 2009, p. 940-41). The reason for this appears to be that high construals lead to a greater perception of “concordance among one’s ongoing goals, such that individual, specific goals appear related to a broader, coherent construal of one’s self-regulatory efforts”, which has been “theorised to promote taking decisive action (Harmon-Jones and Harmon Jones 2008)” (Freitas et al. 2009, p. 941).

Despite their positive impact on affect, however, higher level construals have also been shown to be associated with greater procrastination. Low levels of construal not only lead to a greater likelihood of performing an action and shorter enactment times (Gollwitzer 1999; Liberman et al. 2007) but also affect completion times, with no
mediation “by the perceived importance, attractiveness, or difficulty of the task” (McCrea et al. 2008, p. 1313). McCrea, Liberman, Trope, and Sherman (2008) thus conclude that “forming a concrete representation of a task will reduce procrastination, independently of any effects of planning or understanding of the task” (p. 1308).

Finally, it is also worth noting that there also individual and cultural level differences in mental representations of objects and events (Kim and John 2008; Briley 2009). Kim and John (2008) note that construal level can “vary at the individual level, with individuals having a chronic tendency toward different levels of construal” (p. 117). Those with “a chronic tendency to construe their environment in a more concrete way” (ibid.) tend to operate “primarily at the level of details” and “approach action with its mechanistic components in mind” (Vallacher and Wegner 1989, p. 661). Consumers with a chronic tendency toward abstract representation, on the other hand, tend to view their actions in “terms of causal effects, social meanings, and self-descriptive implications” (ibid.).

With respect to cultural differences, it has been found that while North Americans tend to represent psychologically distant events in more abstract and de-contextualised terms, as predicted by CLT, East Asians’ representations of distal time frames are often lower level construals (Briley 2009). In comparison to their Western counterparts, East Asians tend to be “more in touch with the past” and “more sensitive to the future”; they also have a “more complex, nuanced view of causal relationships” and expect more change and instability over time (Briley 2009, p. 314), all of which relate to lower levels of representation. Culture can therefore influence the salience of
temporally distant events, and in this manner impact the time period that people draw upon when making decisions (ibid).

2.4.5. Construal Level Theory, Persuasion Knowledge Accessibility and Reactance

The argument in this research is that the shifts in representation at different levels of construal can impact on the cognitive structures brought to bear in persuasion situations, those involving threats to freedom in particular. High level representations tend to reflect a more global perspective of object and events, and lead to the consideration of fewer details; while at low levels of construal more details and contextual features are taken into account. To the extent that these differences affect the level of persuasion knowledge used, they are so likely to produce a significant impact on the levels of reactance experienced toward freedom threatening persuasive messages.

When this type of communication is represented at low levels of construal, such that more of its details are taken into consideration, persuasion knowledge is more likely to be activated. The consideration of a greater number of message features increases the salience of the threat to freedom, and this in turn serves as a cue to the activation of persuasion knowledge. While persuasion knowledge use does not necessarily lead to increased resistance, it typically does. To the extent that imposing a restriction on readers’ freedom is perceived to be an inappropriate form of persuasion – an unfair or manipulative one - it will produce a motivation to restore that freedom, i.e. reactance; the easiest way of doing so being to close oneself off from the persuasive message.
At high levels of construal, by contrast, fewer elements of the freedom threatening persuasive message are likely to be considered. The message is construed in higher level, more holistic and de-contextualised terms. Persuasion knowledge is less likely to be activated, and as result, reactance effects are diminished; which should be reflected in a greater openness to the message information. The expectation in this research is therefore that consumers will experience greater levels of reactance at low levels of construal (high detail, high persuasion knowledge use), than at high levels of construal (low detail, low persuasion knowledge use). The next chapter develops the hypotheses, as well as competing explanations for the relationships proposed.
3. Hypotheses

As the literature review shows, reactance effects have been well documented in a variety of contexts; and the applications of construal level theory have similarly been diverse, and extended even to persuasive messages. The relationship between the two, however, i.e. the application of construal level theory to persuasive messages containing threats to freedom, has been left largely unexplored. Furthermore, it is hard to conclude from the existing literature what form this relationship will take, and how construal level will impact on consumers’ responses to freedom threatening communications, their experience of reactance in particular.

3.1. Aim and Previous Research

Restrictions to freedom alter motivations, through the onset of reactance, and as a result, they increase the intricacy of the analysis of persuasion under different levels of construal. The issue ceases to be solely related to the effect of high vs. low level representations on the extent of persuasion, but must also take into account the impact of the motivated need to restore freedom on consumers’ perceptions, attitudes and behaviours towards persuasive messages and their recommendations. Restrictions to freedom also create ambiguity as to the direction of the responses to a persuasion event – given the presence of a threat to freedom in a persuasive message, it the impact of processing at different levels of construal on consumers’ openness to information contained therein ceases to be linear.

Fujita, Eyal, Chaiken, Trope and Liberman (2008), for instance, applied the concept of construal level to the context of persuasive messages (without a threat to freedom).
Their research showed that given strong and positive arguments, persuasion was greater at low levels of construal when arguments relating to low level features of the issue were used; and at high levels of construal when arguments relating to high level features were used. According to the authors, arguments should therefore be “matched” to consumers’ psychological distance from them, or to the level of construal at which they are processing; because “when a person’s mental construal of an object changes as a function of time, arguments that highlight information that matches or is consistent with that construal receive preferential attention in evaluation” (p. 568).

It is unclear what will happen, however, if these arguments also contain a threat to freedom. If the “preferential attention” afforded construal-consistent arguments also increases consumers’ focus on the restriction being imposed on their freedom, it might actually accentuate feelings of reactance and reduce information receptivity. Fujita et al. (2008) specifically note that in order to increase persuasion, the construal-consistent arguments need to be strong and positive; and presumably also threat-free.

From another perspective, one might expect low levels of construal to increase information receptivity, because they make persuasive messages appear “closer”, and so possibly also more real and personally relevant. Chandran and Menon (2004) found, consistent with this argument, that presenting health information at low (vs. high) levels of construal reduced consumers’ tendencies to perceive themselves as “less prone to negative events”, such as illness or accidents, for instance (p. 377). It also helped overcome resistance to difficult prevention behaviours, “by making the health hazard seem more threatening” (p. 385).
If the low level of construal also makes the imposition on freedom appear “more threatening”, however, it is not clear that the benefits noted above will result. Indeed, to the extent that consumers will become motivated to restore their threatened freedom, information receptivity may actually decrease. The aim in this research was therefore to directly analyse the impact of construal level on reactance to persuasive messages containing a threat to freedom; in particular, as measured by consumers’ openness or receptivity to the message information.

Persuasive communications, and public service announcements in particular, frequently rely on their informational content to achieve their persuasion related goals. Weiss and Tschirhart (1994) point out that such communications are in fact “unusual” in this respect, in particular in comparison with other policy instruments, because “they attempt to produce policy results without altering incentives or authority systems. They aim to work through ideas (Weiss 1990), information (Hood 1986), or learning (Schneider and Ingram 1990): the provision of information, the persuasiveness of argument, the heightening of attention, the arousal of emotion and values attached to policy, the framing of issues and solutions” (p. 83). Furthermore, they note, “as citizens and consumers we are bombarded with [these] official government appeals to behave” (p. 82).

Altering one’s openness to message information, then – one’s willingness to consider and believe message claims - constitutes an important and readily available form of freedom restoration. It is also a consequential form of restoration, because such openness is a necessary pre-requisite for any subsequent changes in attitudes, emotions or behaviours with respect to the issue at hand. Krugman, Fox, and Fischer
(1999) point to existence of a process toward behavioural change, such that “conative” (i.e., action related/behavioural) ambitions are unlikely to be reached “without first achieving cognitive and affective goals” (ibid, p. 101), and this requires that the message information be openly considered and believed.

There is thus a critical distinction between information provision, and its actual impact (Krugman et al. 1999). In the absence of information receptivity, the information cannot have any real impact, and neither persuasion nor any accompanying shifts in attitudes or behaviour can occur. This is consistent with Brock’s (1964) theory of persuasion, in which credibility of the communicator relates multiplicatively with receptivity, defined as “an eagerness to expose oneself to information” (Brock and Becker 1965, p. 658). Together, these two elements determine “the effectiveness of propaganda”; and because they relate multiplicatively, “as receptivity approaches zero, differences in credibility, however great, have decreasing influence on propaganda effectiveness” (ibid, p. 658).

In the present research, communicator credibility was subsumed as one component of receptivity; however, the implications remain the same. Even an emotionally appealing communication, aiming principally at affective changes, is unlikely to see these achieved if there is not an initial openness to the message information, and a belief that it is true and from an expert source. A threat to freedom, however, has a significant potential to cause this openness to be reduced. At the same time, altering the level of construal at which the message is being processed may significantly impact on these reactance induced changes in openness. The next section examines how.
3.2. Propositions

That the presence of a threat to freedom in a persuasive message produces a motivation to restore that freedom has been widely demonstrated in the literature. Indeed, “organizations risk rejection by consumers if the arousal of intense or negative emotions”, such as that created by the imposition of restrictions on consumers’ freedom, “is not justified or well managed”; and care has to be taken that such threats do not “arouse emotional reactions that produce negative attitudes and possibly negative behavioral responses” (Hibbert et al. 2007). The expectation in this research was that these effects would interact with level of construal. Specifically, that a high level of construal would be able to mitigate reactance effects, and as such ameliorate the negative impact of threats to freedom on receptivity to high threat message information. The reason for this expectation is bound with the association between levels of construal and detail, and the subsequent effect on the accessibility and use of persuasion knowledge.

Because low level representations are more concrete, they include more object details (in this case, details regarding the persuasive message); and because they are contextualised, they take into account not only the content of the persuasive communication, but also its background, source and reason for being. Such considerations can be expected to increase the accessibility of persuasion knowledge, and accordingly result in higher levels of reactance, reflected in a lower receptivity to the message information.
Friestad and Wright (1994) note that “experienced consumers are able to use tactic-recognition heuristics, effectiveness heuristics, and appropriateness heuristics to generate agent or topic attitudes when they want to invest only limited resources in processing the message” (p. 11). The greater accessibility of persuasion knowledge at low levels of construal allows these heuristics to be used, and so results in lower levels of openness to information. This is also consistent with research on warnings which shows that “people often cut short attention to the mandated warnings”, being aware of their existence but not necessarily of their content, nor “understanding the specific dangers contained in the warning” (Krugman et al. 1999, p. 98), as might be expected if receptivity is low.

Thus, “the way in which meaning is constructed is influenced by an individual’s knowledge structures (Meline 1996)” (Hibbert et al. 2007, p. 726); and this in turn, depends on the level of construal at which consumers’ are processing, and the extent to which their persuasion knowledge is made accessible. We propose that at high levels of construal (or low levels of detail) persuasion knowledge is less accessible, and therefore high threat persuasive messages are less likely to result in reactance from the use of such knowledge structures in this condition (vis a vis a low construal condition).

High level of construal representations are abstract and de-contextualised, focusing on the central, goal related features of objects and events. With respect to persuasive messages, this suggests an emphasis on content over context, likely to increase information receptivity. There will be less focus on the threat to freedom, a potentially powerful cue of persuasion knowledge, and less consideration of ulterior
motives or contextual aspects of the message likely to activate persuasion knowledge. With the emphasis on informational content, reactance is likely to be reduced, as receptivity to this content increases. It is thus proposed that:

H1: When consumers are exposed to a persuasive message containing a threat to freedom, they will be more receptive to the information presented in it if they process at a high, rather than low, level of construal.

This effect of level of construal on information receptivity would not be expected, however, where the persuasive message does not contain a threat to freedom. Absent a threat to freedom to serve as a cue to persuasion knowledge use, we do not expect level of construal to significantly impact consumers’ openness to the persuasive message. To the extent that there is an influence of construal level in the low level of threat conditions, however, it is likely that an interaction effect might emerge between these two variables, such that the impact of level of construal on information receptivity depends on the extent to which the message poses a restriction to one’s freedom of choice.

An impact on openness to information is also expected for level of detail. High level of construal representations take an overall perspective of things and selectively “exclude irrelevant features of objects and events” (Fujita et al. 2006, p. 352). Low level construals, on the other hand, are associated with more detailed representations; they are concrete and contextualised, consider peripheral event or object features, and lead to a perception of these features as “unique and specific” (ibid). As a result of this link, the same relationship with threat to freedom is expected to hold for level of detail as for construal level, albeit in reverse.
That is, information receptivity should be higher at low, rather than high, levels of detail. Considering the message at high levels of detail is likely to enhance the impact of the threat; whereas at low levels of detail, the restriction on freedom is given less attention and so is less likely to serve as a cue to persuasion knowledge use and/or produce reactance. Contextual message features are less focused upon, and with the emphasis on message content and getting an overall view of the message instead, information receptivity is likely to increase:

H2: When consumers are exposed to a persuasive message containing a threat to freedom, they will be more receptive to the information presented in it if they process at a low, rather than high, level of detail.

Parallel to the relationship between level of construal and threat to freedom, there is no expectation that level of detail should produce a similar impact of significance if the persuasive message does not contain a threat to freedom to serve as a cue to persuasion knowledge use. It is plausible, however, that there will be an interactive effect of level of construal and threat to freedom on information receptivity.

These relationships between construal level and threats to freedom, or detail level and threats to freedom, and their resulting impact on information receptivity, are proposed in this research to stem from differences in the use of persuasion knowledge. More specifically, from the greater use of persuasion knowledge at low levels of construal, where the high threat message is considered in more detail; and the lower use of persuasion knowledge at high levels of construal, where fewer high threat message details are taken into account.
Because persuasion knowledge is not typically readily accessible or “top of mind”, the extent to which it is used depends critically on the characteristics of the persuasion situation, and the extent to which this makes persuasion knowledge salient and/or provides consumers with a cue to its use. Highly accessible constructs or attitudes - those more frequently activated in day to day activities - tend to be “automatically activated in the presence of attitude objects, without conscious, intentional cognitive processing” (Eagly and Chaiken 1993); but for constructs which are less frequently activated, this is not the case. Faced with a decision making or evaluation situation, people “do not normally use all of the relevant information or previously acquired knowledge they have available. Rather, they consider only a subset of this information and knowledge that comes to mind most quickly and easily” (Wyer and Adaval 2009). Therefore, less accessible constructs such as persuasion knowledge require greater deliberation and/or the presence of a cue in order to come into play.

As noted in the literature review, when persuasion knowledge accessibility is low - for instance due to cognitive overload (Campbell and Kirmani 2000), because of “disruptions of the verbal component of working memory” through fast paced music (Bosmans and Warlop 2005), or because the persuasion situation is not recognised as such in an apparently benign context (Williams et al. 2004) - then persuasion knowledge becomes less likely to be used. If cues of persuasion knowledge are provided, however, these constraints on its use are typically overcome. For instance, contexts in which ulterior motives are made salient (Campbell and Kirmani 2000); or in which the use of persuasion tactics is perceived as inappropriate, i.e. outside of “the boundaries of the ‘rules of the game’” and so seemingly not “normatively acceptable”
(Friestad and Wright 1994, p. 10); or even still, contexts containing elements disruptive of normal consumer routines, such as promotions which fall outside “standard, expected formats” (e.g. those containing an entertainment component (Briley et al. 2011) - any of these can trigger persuasion knowledge, and increase its use.

The argument made here is that the consideration of a freedom threatening persuasive message at a high level of detail (or at a low level of construal) constitutes another such instance where persuasion knowledge becomes more likely to come into play. For most persuasive message formats, threats to freedom can be considered to fall outside of “consumers’ normal routines” (Briley et al. 2011, p. 3) - particularly in advertising, they are neither typical nor likely to be anticipated before exposure to the communication. They also make the persuasive intent more overt, and are likely to raise issues with regard to the appropriateness - the “fairness, manipulativeness, respectfulness” (Friestad and Wright 1994, p. 14) – of the persuasion tactics used. As such, threats to freedom can constitute a cue to persuasion knowledge, the more so the more they are perceived to “symbolise a violation of expectations” (Ahluwalia and Burnkrant 2004, p. 27).

As a result, anything within the persuasion context that draws attention to, or allows attention to be focused on, the threat to freedom, is likely to increase persuasion knowledge use. A low construal, more detailed consideration of a persuasive message, for instance, implies that contextual aspects of that message, such as a threat to freedom will also be focused upon. This, in turn, can be expected to activate persuasion knowledge use, triggering reactance effects, such that receptivity to message information will drop.
At high levels of construal, in contrast, fewer details are considered and representations of information are more schematic. Approaching a high threat persuasive message in this manner is therefore expected to reduce the emphasis placed on the threat to freedom in favour of more central message characteristics, such as the content itself. The threat to freedom thus becomes unlikely to serve as a cue to persuasion knowledge – these structures remain unused and information receptivity increases.

Although the emphasis placed on a threat to freedom in a persuasive message may also in part depend on the intensity of that threat; that emphasis is expected to be diminished at high levels of construal, independent of that intensity. At high levels of construal, the emphasis on more central message features leads to a greater focus on the actual message being conveyed, rather than peripheral aspects relating to how it is being conveyed, expected to trigger persuasion knowledge.

The underlying assumption is that a greater use of persuasion knowledge will lead to a more acute experience of reactance, and lower receptivity to message information. This seems reasonable, since although persuasion knowledge is theoretically neutral, aiming at goal advancement rather than to produce resistance (Friestad and Wright 1994), in practice it often results in greater barriers to persuasion and generally causes people to have their “guard up” (Friestad and Wright 1994; Campbell 1999; Campbell 1995). Hence the expectation that receptivity to high threat message information will vary inversely to the use of persuasion knowledge. With a greater use of persuasion knowledge, at a high detail/low construal level of message consideration, consumers are likely raise their guard and be more vigilant of
the message, thus becoming less open to its informational content. When persuasion knowledge is not activated, however, at high levels of construal or low detail, participants will have their guard down, and subject the message to less scrutiny, thus appearing more open to its content. It is therefore proposed that:

\[ H3: \text{When consumers are exposed to a persuasive message containing a threat to freedom, they will make greater use of their persuasion knowledge if they process at a low, rather than high, level of detail.} \]

Once more, this effect is not expected for low threat messages, because in the absence of a cue, persuasion knowledge will tend to be less accessible and used.

3.3. Alternative Explanations

There are two alternative mechanisms which could also explain the relationship between level of construal and threat to freedom, and the manner in which these variables are proposed to interact to influence information receptivity. The first relates to perceptions of risk, closeness and personal relevance of the persuasive message. It has already been demonstrated that low levels of construal increase perceptions of personal risk and attitudes toward risky behaviour exposed in health related persuasive communications Chandran and Menon (2004). To the extent that such feelings of closeness extend to the threat to freedom and make it appear more personally directed, it seems plausible that this condition would lead to a more acute level of reactance, and reduce openness to the message information. At high levels of construal, in contrast, the message would be viewed as more remote and less
personally relevant; allowing for greater attention to its informational content, with fewer feelings of personal threat.

The second alternative explanation relates to the shifts in emphasis which occur between high and low levels of construal, in particular with respect to desirability vs. feasibility concerns, and pro vs. con considerations. High levels of construal lead to a greater relative emphasis on desirability and goals, as well as on arguments in favour of an action than their low construal counterparts. Low level construals place the focus on feasibility, processes and the arguments against (rather than pro) a certain action. This difference has for instance, been shown to produce distinct levels of self-control. By focusing attention on end goals, a high level of construal has been shown to surmount depletion effects and so allow consumers to exert greater levels of self-control (Agrawal and Wan 2009). Because “higher level construals emphasise goals and dilute the focus on resources (...) they are unlikely to impair self-control” (ibid, p. 459).

It seems reasonable to presume that a high level of construal, and the subsequent attention on desirability and end goals, might likewise be sufficient to overcome the reactance effects resulting from a threat to freedom, and thus increase information receptivity. In a persuasive message context, a high level of construal is likely to lead to a greater emphasis on the desirability of the promoted position, and reasons in favour of carrying it out, rather than on the arguments against it, or the feasibility issues involved in achieving the proposed outcomes. This seems a particularly plausible alternative explanation where public service announcements are concerned, since these communications typically propose advantageous end goals (e.g. quitting smoking), which nevertheless require high effort activities in order to be achieved.
High level construals would tend to focus attention on those beneficial outcomes, while low level construals would put the spotlight on the costly processes of achieving those outcomes.

The studies undertaken in this research thus aimed not only to test for the hypotheses developed above, but also to distinguish between the persuasion knowledge based explanation proposed in H3 and these competing explanations for the relationship between construal level and threats to freedom. The next section presents an overview of these studies.

3.4. Overview of Studies

Three studies were carried out to test for the hypothesised interaction between construal level and threat to freedom. Study one sought to establish the basic pattern and determine whether changes in participants’ construal levels indeed affected their receptiveness to information communicated in threatening messages. Study two sought to build upon the first experiment, replicating its results using a different persuasive message context and a construal level prime; and study three tested the proposed mechanism of detail level, as well as its association with persuasion knowledge use.

In all three studies, a condition in which the message was not threatening – i.e. did not restrict freedom of choice or action - was included as a control. Although it was expected that consumers would be more receptive to information included in threatening messages at high (vs. low) levels of construal, this difference was not expected to occur with respect to receptivity to non-freedom restricting messages. In
the absence of a threat to freedom, this could not serve a cue for the activation of persuasion knowledge, and reactance effects in the form of lower information receptivity would be less likely to occur. The following sections provide a brief description of the three studies and their main results.

As the standard in both the reactance and the construal level theory research (e.g. Brehm et al. 1966; Bushman and Stack 1996; Fujita et al. 2008; Trope and Liberman 2000), an experimental method was adopted, and the different treatments tested under controlled conditions (Keppel and Wickens 1982). Because “no single indicator can capture the meaning of construct completely” and “any indicator can represent many constructs”, experimental testing requires “convergence procedures”. Convergence is sought through recourse to various indicators, which can all represent the construct under study, but at the same time “differ in as many other respects as possible” (Sternthal, Tybout and Calder 1987, p. 123).

Thus, in the present research, peripheral features of the experimental designs vary from one study to the other. For instance, in study one, the target message is a PSA, while in study two it is a newspaper article, which constitutes a very different context and type of message. Both, however, pose a constraint to consumers’ freedom of choice; and in both, different levels of threat to freedom are juxtaposed with high and low levels of construal. The manipulations thus tap into the same underlying constructs; and by achieving the same pattern of results, help eliminate alternative explanations. This, in turn, constitutes “an appropriate means of achieving convergence” (Sternthal et al. 1987, p. 123).
3.4.1. Study One

Study one followed a 2 (threat to freedom: high, low) X 2 (construal level: high, low) between subjects design. The target message was an alcohol public service announcement directed at young people. It highlighted the potential risks of excessive drinking and promoted greater moderation in alcohol intake, either as a matter of fact regarding which there was no choice, using definitive language and overt demands (high threat condition), or as a recommendation worthy of consideration, but which devolved the decision to the consumer (low threat condition).

The construal manipulation was also contained in the target message, through the framing of the negative effects of alcohol in low level, concrete terms, as something which occurs “every day” (low construal condition) vs. framing these effects in high level terms, as something which occurs “every year” (high construal condition). Both the threat and the construal manipulations were adapted from previous research.

The results of study one conformed to prediction: participants showed greater openness to information when the high threat message was framed in high (vs. low) construal terms, and there was a significant interaction between threat to freedom and level of construal for information receptivity. Study one furthermore offers evidence inconsistent with an explanation of results based on the personal relevance of the message. A measure of perceptions of personal risk of contracting alcohol related illnesses was taken, and contrary to what might be expected if the greater information receptivity stemmed from lower perceived message relevance, this measure displayed a similar pattern of results to the information receptivity measure.
For participants in the high threat condition, perceptions of risk were actually greater (marginal significance) at high (vs. low) levels of construal.

Study one thus established the basic effect and ruled out one of the alternative explanations for the relationship between level of construal and threat to freedom. Study two replicated and extended these results.

3.4.2. Study Two

A 2 (threat to freedom: high, low) X 2 (construal level: high, low) between subjects design was once again used, but with an ostensible newspaper article as the target message. The article described a university level election, and the two candidates running in it. This represented a marked shift in context – moving away from both the public service announcement format and health risk content; and also more narrowly circumscribed the scope of the threat. In study two, the message did not impose on threat to self integrity more generally, but impacted only on participants’ freedom of choice – the ability to decide on the relative merits of the candidates for themselves (since the high threat condition concluded the clear superiority of one in relation to the other).

The context of study two also provided a test for the explanation of results based on shifts in focus between construal conditions - from feasibility to desirability or from cons to pros. The message entailed no such considerations; therefore, if the same pattern of relationship between threat to freedom and construal level uncovered in study one were to be replicated in study two, it would indicate that the underlying mechanism was not related to such shifts in focus.
Study two also used a different construal manipulation, non-consciously priming the concept in an ostensibly unrelated exercise prior to exposure to the message. This constituted an important addition, because it provided even stronger evidence that the effects on information receptivity were being caused by the shifts in level of construal. The results of study two replicated the pattern found in study one, and participants displayed significantly greater receptivity to the high threat message information when they were primed with high (vs. low) levels of construal.

3.4.3. Study Three

Study three used a design similar to that of study one, but substituting the construal level manipulation with one that shifted the level of detail considered during message processing. If the same pattern of results could be replicated using detail level instead of construal, it would constitute a strong indication that detail level was the underlying mechanism to the interaction as hypothesised.

The design was a 2 (threat to freedom: high vs. low) X 2 (detail level: high vs. low) between subjects experiment, and the target message was a public service announcement about the negative effects for mental health of excessive coffee consumption. The idea was to return to a public service announcement context, but with a largely unfamiliar topic, toward which participants were unlikely to have any pre-conceived ideas or very strong feelings.

Threat to freedom was manipulated within the message, through the concluding paragraph which either asked readers to consider (low threat), or by contrast commanded them (high threat) to limit their coffee consumption. Level of detail was
manipulated through the instructions, and led participants to take either an overall picture of the message or consider it more attentively and in greater detail.

The results replicated those of construal level: there was greater receptivity to the information in the high threat message when it was considered at low levels of detail (i.e. high construal), than when greater levels of detail were taken into account (i.e. low construal). Furthermore, a similar pattern was observed with respect to persuasion knowledge use. Faced with the high threat message, participants made greater use of their persuasion knowledge at high levels of detail (i.e. low construal), than when they considered the message in less detail (i.e. high construal). Plausibly, taking a big picture view in the low detail condition meant persuasion knowledge was left untapped, while a more detailed consideration of the message in the high detail condition led to the use of a greater variety of knowledge sources, including persuasion knowledge. The next chapters discuss each of the three studies in greater detail, both in terms of design, findings and implications.
4. Study One

Hypothesis H1 proposed that given a high threat to freedom message, receptivity to message information would be greater at high (vs. low) levels of construal; while no increase in information receptivity was expected for the high construal condition when the message was not threatening, because in the absence of a threat to freedom, reactance effects would likewise be absent. There would therefore be no motivation to restore freedom by closing oneself off from message information.

Study one therefore aimed to provide a test for H1 and show the basic relationship proposed between construal level and threat to freedom. It did so using a Public Service Announcement (PSA) style message about moderation in alcohol consumption. Not only are reactance effects particularly relevant in PSA contexts, as discussed in the literature review (section 2.2.3), but from a practical point of view this comprised a realistic context for testing reactance effects. PSAs are typically one sided and directive, often making recourse to scare tactics and/or forceful language, and as such provided a space where freedom limiting statements could be used without seeming out of place or arousing suspicion. In addition, using a PSA context had the further benefit of providing. In addition, using a PSA context had the further benefit of providing practical insights relevant to this important context.

The alcohol topic was chosen not only because it is a common subject matter in public service announcements, but also due to its assumed relevance to the experimental sample (students at the University of Sydney). Drinking is a big part of student culture in Australia, and this age group comprises a realistic target of responsible drinking messages. According to the International Centre for Alcohol
Policies, “the potential for alcohol-related harm is higher for younger people (those under the age of 25), who are more likely than adults to: drink “excessively”; engage in “aggressive and asocial behaviours and experience injuries and accidents (especially road traffic crashes)”; be involved “in both excessive alcohol consumption and risky sexual behaviour” (http://www.icap.org, accessed August 2011).

In addition, a review of public transportation and billboard advertising at the time of data collection, showed that there were no government-authorised alcohol prevention campaigns being carried out in Sydney at the time of data collection, other than one relating specifically to Random Breath Testing on the roads. A message promoting responsible alcohol consumption among young adults was therefore developed as the experimental stimuli, based on information from the Government website www.alcohol.gov.au.

4.1. Design and Participants

Study one followed a 2 (level of threat to freedom: high vs. low) X 2 (construal level: high vs. low), between subjects design, where both independent variables were manipulated via the target message. One hundred and fifty four students participated in the study, in exchange for either course credit (two credit points) or a payment of $15. Participants were Undergraduate and Honours students from the University of Sydney. Ages ranged from 18 to 45, with an average respondent age of 22 (median = 21). Just over 50% of the participants were female - 78 female, 74 male, with two participants failing to answer this question.
Five respondents were excluded from the analyses, because they deduced that the study was related to “unpleasant” or “strongly worded” messages; and in addition, only participants who were alcohol drinkers were included in the analyses, as non-drinkers were not expected to experience reactance to “anti”-drinking messages. For those who did not drink, or did so only very occasionally, even the high threat version of the message would not have been putting a cherished freedom at risk. Furthermore, research has shown a strong link between defensiveness and involvement, whereby greater personal relevance is associated with “increased defensiveness and reduced acceptance of important health messages” (Sherman et al. p. 1047).

Bensley and Wu (1991) note the same pattern with regard to boomerang effects to dogmatic messages – which tend to be more likely with those recipients most at risk of the target behaviour. This effect of involvement further extends to perceptions of advertisements; such as for example, in smokers’ and non-smokers’ understandings of anti-smoking advertisements and their effectiveness (Wolburg 2006). In Wolburg’s (2006) study, low involvement non-smokers perceived the ads to be well made and effective; while high involvement participants, i.e. smokers, thought they added nothing new, and even had feelings of defiance towards them.

In study one, drinking behaviour in the week prior to the study was used as a proxy for involvement. Participants were asked to indicate the number of beers, glasses of wine and spirits they had consumed in the past week. The question was formulated in this specific manner to induce participants to carefully think about their alcohol consumption, rather than just “throw out” an estimate. Those who indicated they had not consumed any alcohol in the previous week were excluded from the analyses.
Given the gender and cultural differences in drinking behaviours (see preliminary analyses below), this meant slightly more women than men, and more Asian than Western participants were excluded. The final sample thus included 92 participants, 45 men and 46 women (one participant failed to answer this question); 51 nationals of Western countries and 40 from Asian countries.

4.2. Target Message and Independent Variable Manipulations

The target public service announcement was developed in the form of a print message. It contained a series of factual statements regarding the costs and consequences of alcohol misuse, including hospitalisations and deaths, and emphasised their particular relevance to young adults. The message also contained a small image, specifying the number of “standard drinks” contained in different types of alcoholic beverages. All of the information was taken, most of it textually, from the Australian Government’s Department for Health and Ageing website regarding alcohol consumption, www.alcohol.gov.au.

Threat to freedom and level of construal constituted the independent variables, and were both manipulated within the text. The threat level treatments were achieved by changing the concluding statements of the message. In the high threat condition, the communication ended asserting that “As any sensible person can see, there is really no choice when it comes to university students drinking: you simply have to moderate your drinking” and a final reminder that “you must limit your drinking! No more than 4 standard drinks a day on average for men, and no more than 2 standard drinks a day on average for women”.

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This manipulation was adapted from Bensley and Wu (1991), and restricted freedom by forcefully exhorting readers to a single acceptable course of action – that of limiting alcohol consumption. The corresponding statements in the low threat condition (also adapted from Bensley and Wu 1991) were that “It seems a sensible conclusion to say that when it comes to university students drinking, you may want to consider moderating your drinking”, with a reminder of “the current guidelines” for alcohol consumption as stated above: “no more than 4 standard drinks a day on average for men, and no more than 2 standard drinks a day on average for women”.

It is important to note that this manipulation was aimed at affecting perceptions of threat to freedom - in this case, the freedom to decide how much alcohol one should consume given the information presented – rather than constitute a more general threat to self regard. Previous research has demonstrated reader sensitivity to health risk information such as that presented in the target message of study one, particularly when it is of high relevance, because it jeopardizes people’s perceptions of themselves as “healthy and adaptive” individuals, i.e. their self image (Sherman and Cohen 2002, p. 121).

Self image consists of “important relationships, values, experiences, and behaviours” (Sherman et al. 2000, p. 1047); and it is a flexible system, such that “failures in one aspect” of people’s lives can be compensated for “by emphasizing successes in other domains” (Sherman and Cohen 2006, p. 188). A threat to freedom generally constitutes a threat to self, because it affects one of its domains: autonomy, which is a basic human need (Ryan and Deci 2000) and as such an important part of
global self integrity. The converse, however, need not hold – threats to global self esteem do not typically affect one’s sense of freedom.

Although the target message in study one did contain a threat to global self regard, this need not have affected perceived freedom of choice, and was furthermore maintained constant across conditions. What was different across conditions was threat to freedom – readers’ ability to decide for themselves how much alcohol they should consume. In the high threat condition, this freedom was greatly restricted, where as in the low threat condition, it was not imposed upon.

The second manipulated variable in study one was construal level, which was altered by changing the temporal and spatial concreteness of aspects of the message. In the high construal condition, alcohol related problems were framed as occurring “every year” and without reference to a specific geographical location; in the low construal condition, the same problems were framed as occurring “every day, in Sydney”. These time and space references appeared five times throughout the message, and the time references were underlined.

This manipulation follows the work of Chandran and Menon (2004), and is slightly different from the more commonly used manipulations of construal level, which typically contrast two levels of psychological distance – for instance in temporal terms, a near versus distant future event (e.g. “in a few days” vs. “in a year”). However, Chandran and Menon (2004) show that the “objectively neutral reference periods of day and year evoke different perceptions of proximity and concreteness” in much the same way as temporal distance treatments. Indeed, in their studies they show that “temporal framing of events set in the present mimic processes by which temporal
distance effects manifest (as per CLT; Liberman and Trope 1998; Trope and Liberman 2000). When people see health-related information in a day (vs. a year) format, their construals evoke concreteness and proximity” (Chandran and Menon 2004). This similarity between the two forms of construal manipulation was found with respect to “individuals’ risk perceptions, attitudes, intentions, emotions, and message effectiveness” (Chandran and Menon 2004), suggesting that the same perception of psychological distance, and resulting construal-mediated consequences for decision and judgments can be obtained with either manipulation. Figure 4.1 shows an example of the target message, in its high threat – high construal condition.

There are 40 150 alcohol related hospitalisations every year.

Alcohol is a drug that can lead to intoxication and dependence; it can also impair motor skills and judgement, cause illness and death and have other harmful effects on our social, economic and living environments

A person does not have to be drunk, or drink heavily before they become ill, are injured or die from an illness or injury caused by alcohol.
The cost to the community of alcohol related social problems is around $7.6 billion each year.

There are 40,150 alcohol related hospitalisations every year.

There are 1,400 alcohol related deaths every year.

Every year, alcohol is causing harms such as sleep disorders, violence, stroke, liver disease and stroke in significant numbers of people.

Young adults are more likely than older people to experience alcohol-related harm. Young adults have the highest consumption rates and the highest risk of alcohol-related injury, including road trauma, violence, sexual coercion, falls, accidental death and suicide.

As any sensible person can see, there is really no choice when it comes to university students drinking: you simply have to moderate your drinking.

Remember: you must limit your drinking! No more than 4 standard drinks a day on average for men, and no more than 2 standard drinks a day on average for women.

Figure 4.1 - Example of Study One Target Message (High Threat -High Construal Condition)

4.3. Procedure and Dependent Variables

Participants signed up for what they were told was a study on “Communication Styles”. Upon arrival, they were asked whether they would be willing to also fill out a short survey for a different study on “Health and Lifestyles”, being carried out by the Health Sciences Department, which all agreed to do. They were then given information
statements and consent forms to sign, followed by the instructions for the two questionnaires, which both pertained to the present study.

Sessions were conducted in computer labs, in groups of up to 12 participants seated separately, at independent desks. The first questionnaire, on “Communication Styles”, was completed on the computer. Participants were led to believe that they would be randomly assigned to one of a series of different communications, on a variety of topics, aimed at final consumers; and asked to comment on it. In fact, everyone received the target message on responsible alcohol consumption in one of its four different versions, followed by the measures of the main dependent variables (information receptivity and alcohol risk), items relating to process and outcome thoughts, and then the manipulation checks.

The second questionnaire was done in paper and pencil, to further increase its distinctiveness from the first. Built into it were questions regarding habitual drinking patterns, as well as demographics. The alcohol questions were embedded amongst a series of other health and lifestyle questions regarding eating, exercising and smoking habits; and participants were assured of the anonymity of their responses. The two questionnaires together took between 35-40 minutes to complete, and none of the participants reported suspicion of a link between the two studies.

The main dependent variable was receptivity to message information. Health communications, and public service announcements more generally, typically use “informational strategies” to achieve their aims of persuading people toward a particular attitude and/or behaviour (Sherman and Cohen 2002, p. 121). They present people with the facts, and depend on the information presented being believed and
perceived as expert to produce some movement toward change. As a result, receptivity to message information is one of the most crucial elements to guarantee that such persuasive messages will be effective.

Scammon, Mayer, and Smith (1991), for instance, examined the impact of alcohol warnings on beverages. They found that while the labels had been successful in creating awareness – they had been noticed and could be recalled by respondents – they had not yet led to changes in perceptions of risk or behaviour. The expectation, however, was that such changes in perceptions and behaviour might eventually follow on from the cognitive effects obtained, since “almost all information disclosure requirements work in stages, beginning with changes in awareness and knowledge, followed by changes in attitudes and intentions, and culminating, for a small number of people, in changes of behaviour” (Scammon et al. 1991, p. 226).

But if the initial stages of “awareness and knowledge” fail to occur, because consumers are not receptive to message information, for instance, or because they are discounting it, affective and conative goals cannot be achieved. Exposure to a message is not alone sufficient; rather, readers need to be open and receptive to its claims, if it is to be of any effect. When a message is not believed or its expertise is questioned, this receptivity is compromised – cognitive changes cannot occur, nor lead the way to further changes in attitudes and behaviours. Such direct mental forms of restoration (Brehm 1972), however, constitute easily available strategies to overcome feelings of threatened freedom.

In study one, a measure of receptivity to message information was used which reflected participants’ acceptance of both the message and its source. Participants
were asked to indicate the extent of their agreement on a seven point likert scale, ranging from 1 = “not at all” to 7 = “completely agree”, with statements affirming that “the message was credible” and “trustworthy”, and that its source was “expert” and “qualified” (α = .582). This measure was used across all three studies; and to guard against pre-existing attitudes about the source, the target messages used did not specify their author. This was important, since as noted before, reactant responses to a message source can carry over to subsequent messages on other topics by the same source (Miller et al. 2007).

Next, a measure was taken of participants’ reported outcome vs. process thoughts while reading the message, as an initial test of an explanation of the relationship between level of construal and threat to freedom based on shifts in emphasis between these considerations. According to this argument, the higher levels of information receptivity at high (vs. low) levels of construal would be a reflection of the greater emphasis on the desirable outcome proposed in the message, in this condition. Whereas in the low construal condition, information receptivity would be lower, because the focus would be on the process or feasibility issues involved in achieving the proposed goal. In study one, the desirable goal was the moderation of alcohol consumption, and resulting avoidance of the negative consequences associated with excessive drinking; whereas the feasibility considerations pertained to the potentially difficult process of actually reducing alcohol consumption.

Participants were asked the extent to which they had held either type of consideration while reading the message, on a 7 point scale where 1 = not at all, and 7 = thought about it a lot. For instance, how much they had thought about “avoiding
alcohol related health problems” or “being healthy” (outcome), versus the steps they would need to take in order to reduce their drinking or how others would react if they changed their drinking patterns (process). Five items relating to outcomes and three items relating to process were combined to create a measure of outcome thoughts ($\alpha = .735$) and process thoughts ($\alpha = .681$) respectively.

Subsequent to these measures, checks were carried out for the manipulated variables. Perceived level of threat to freedom was measured by asking participants to indicate the extent to which they thought the message was “dogmatic”, “tried to manipulate” them, and “tried to pressure” them, on a seven point scale where 1 = not at all and 7 = completely agree ($\alpha = .592$) Level of construal was measured by asking participants the extent to which the message discussed alcohol problems as they occur daily (manipulation check for the low construal condition) or annually (manipulation check for the high construal condition). Agreement with these statements was measured on the same seven point scale.

Although these measures do not tap into the level of construal at which subjects were processing the information, they serve as a proxy measure of construal level, and indicate that subjects noted and were able to recall the information relevant to the construal manipulation, which previous research has shown to be effective in producing high and low construal representations (Chandran and Menon 2004).

After completing the first questionnaire, participants moved on to the second task, and filled in the “Health and Lifestyle” questionnaire, which compiled information regarding drinking patterns. Participants were asked with regard to their alcohol consumption in the week prior to the data collection (number of beers, glasses of wine
and spirits consumed); as well as to estimate their future alcohol consumption. This was an average of participants’ estimate of the number of alcoholic drinks they would consume during “the next week” and on their “next night out”.

The second questionnaire also tried to gauge how personally relevant participants perceived the message to be, as a test of this explanation for the predicted relationship between construal level and threat to freedom. According to this argument, receptivity to the high threat message information would be greater at high (vs. low) levels of construal, because at this more abstract level, the message would appear more distant and less personally relevant and threatening. At low levels of construal, on the other hand, the message would be perceived as “closer to the self” and its restriction on freedom as more threatening, resulting in a need to restore that freedom by lowering one’s receptivity to information.

A measure of participants’ perceptions of their personal risk of contracting an alcohol related illness was thus taken. This not only served as a form of gauging personal relevance, but also constituted a measure of the effectiveness of the persuasive message. Public Service Announcements, and those relating to health issues in particular, often aim to increase readers’ perceptions of their levels of personal risk from engaging in the behaviour(s) in question, as a further means of motivating behavioural change (Sherman et al. 2000). The underlying assumption is that the more consumers perceive themselves to be at personal risk of incurring the negative consequences of a behaviour, the more inclined they will be to take steps towards changing that behaviour. If the message also contains a threat to freedom, however, the need to restore that freedom might manifest itself through discounting
of the personal relevance of the health risk behaviour. In this case, the increase in perceptions of risk and accompanying changes in attitudes or behaviour would fail to occur or appear mitigated.

As a measure of personal risk, then, participants were asked to rate their likelihood of contracting “an alcohol related illness”, on a scale of one to seven, where 1 = not at all and 7 = very likely. Like the other alcohol related questions, this was included in the ostensibly distinct “Health and Lifestyle Questionnaire”, and embedded amongst a series of other health related issues. If personal relevance was the mechanism underlying the relationship between construal level and threats to freedom, then perceptions of risk would be higher at low (vs. high) levels of construal.

4.4. Results

4.4.1. Preliminary Analyses: Drinking Patterns of Participants

An initial analysis was carried with regard to participants’ drinking patterns by gender and nationality, given the importance of involvement in contexts involving persuasive messages and threats to freedom in particular. In study one, involvement was basically tied to drinking habits: the more alcohol participants consumed, the more relevant and freedom threatening the message’s alcohol recommendations would have appeared to them.

The data showed significant differences in drinking patterns between men and women, both in terms of the number of drinks consumed in the previous week, and in their estimates of alcohol consumption for the following week and their next night out. Among drinkers, men reported having consumed considerably more drinks in the
previous week (M = 3.89) than women (M = 1.52; diff = 2.37, F (1, 89) = 14.62, p < .001,
ηp^2 = .14) and also intended to drink significantly more in the future (M_{male} = 8.06 vs.
M_{female} = 3.56; diff = 4.5, F (1, 87) = 8.69, p < .005 ηp^2 = .09). The pattern and levels of
significance were similar when non drinkers were included in the analysis. There were
slightly more female than male non-drinkers: women represented 52.7% of those who
had not consumed any alcohol in the previous week.

There were also significant differences in alcohol consumption by nationality. The
sample was comprised of 51 “Eastern/Asian” participants, most of them Chinese, but
also including Taiwanese, Japanese, Vietnamese, Korean, Thai and Malaysian
respondents; and 40 respondents who were nationals of “Western” countries: mostly
Australians, but also including Europeans and North Americans (one participant failed
to answer this question). In terms of ethnicity, there were more participants of Asian
descent than of “Western”/Anglo background, but 15 did not respond to the cultural
background question. Table 4.1 shows the breakdown of participants and their
average alcohol consumption by gender, nationality and background.

The two groups (as measured by nationality) were significantly different in terms
of their drinking patterns, even when considering only drinkers: respondents from
western countries had not only consumed more alcohol in the past week (M = 3.84
drinks) than their Eastern counterparts (M = 1.23 drinks; diff = 2.61, F (1,89) = 18.13, p
< .001, ηp^2 = .17), but also intended to consume more alcohol in the following week (M = 8.10 vs. M = 2.68; diff = 5.42, F (1, 87) = 12.91, p < .005, ηp^2 = .13). Amongst the
participants who reported they had not consumed any alcohol in the previous week,
74.5% were Asian; with the percentage increasing to 84.3% when ethnicity, rather than nationality, was considered.

<table>
<thead>
<tr>
<th>Eastern Participants (Nationality)</th>
<th>Western Participants (Nationality)</th>
<th>Eastern Participants (Ethnic Background)</th>
<th>Western Participants (Ethnic Background)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Number of participants</td>
<td>23</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Average number of drinks consumed past week</td>
<td>1.07</td>
<td>1.44</td>
<td>1.97</td>
</tr>
<tr>
<td>Average number of estimated future drinks (next week and next night out)</td>
<td>2.82</td>
<td>3.22</td>
<td>4.78</td>
</tr>
</tbody>
</table>

*Table 4.1 – Participants’ Reported Drinking Patterns (by Nationality, Ethnic Background and Gender)*

For the purposes of the current study, however, these gender and nationality differences in drinking behaviours were mostly relevant in terms of the involvement they signified; as such, the analyses reported below included only drinkers.

4.4.2. Manipulation Checks

Checks were carried out for the two manipulated variables - construal level and threat to freedom. A one way ANOVA confirmed that participants were more likely to agree that the message specified the number of alcohol related problems that occur daily when they read the low (M = 5.87) vs. high construal message (M = 2.98); diff = 2.89, F (1, 87) = 73.39, p < .001, η² = .46). Conversely, they were significantly more
likely to agree that the message talked about the number of alcohol related problems that happen every year when they were assigned to the high construal condition (M = 5.96) than when they were in the low construal group (M = 3.49; diff = 2.47, F (1, 89), p < .001, η₂ = .37).

With regard to threat to freedom, the data confirmed that participants in the high (vs. low) threat condition perceived the message to be more forceful (marginal significance), expressing higher levels of agreement that the message was dogmatic, and trying to manipulate and pressure them (M = 4.19) than those in the low threat condition (M = 3.76; diff = .43, F(1, 88) = 3.84, p = .068, η₂ = .01).

4.4.3. Information Receptivity

A full model ANOVA (2 x 2) was run for the measure of participants’ receptivity to the message information. This revealed a significant interaction between threat to freedom and construal level (F(1, 87) = 6.94, p < .05, η₂ = .07). Furthermore, consistent with hypothesis H1, openness to information in the high threat condition was greater when the message was framed at a high (M = 4.73) vs. low (M = 4.26) level of construal (F(1,87) = 4.95, p < .05, η₂ = .05); but there was no significant impact of construal level on the low threat message (Mlc = 4.59 vs. Mhc = 4.25. F(1,87) = 2.31, p > .1). There were no main effects of either construal level (F(1,87) = .18, p > .2) or threat to freedom (F(1,87) = .22, p > .2) on information receptivity (see appendix one for the table of ANOVA results).

1 At low levels of construal, the low threat message induced (non-significantly) higher levels of information receptivity than the high threat message (Mlt = 4.59 vs. Mht = 4.26; F(1, 87) = 2.38, p > .1), but the pattern was significantly reversed when the communication was framed at a high level of construal (Mlt = 4.25 vs. Mht = 4.73; F(1, 87) = 4.77., p < .05, η₂ = .05).
4.4.4. Risk of Illness

A full-model ANOVA (2 x 2) was also run on perceived risk of contracting an alcohol related illness. The results largely paralleled those of the information receptivity measure, and showed a marginally significant interaction between construal level and threat to freedom ($F(1, 87) = 3.31; p = .08, \eta_p^2 = .04$). Contrary to what would be expected if personal relevance was the underlying mechanism to this interaction,

\[\text{At low levels of construal, the low threat message generated marginally significant higher perceptions of personal risk than its high threat counterpart (}}\]

\[\text{M_L = 2.30 vs. M_H = 1.70; diff = .68, F(1, 87) = 2.96, p = .09, \eta_p^2 = .04), but the difference was rendered non-significant when the message was framed at a high level of construal (}}\]

\[\text{M_L = 2.1 vs. M_H = 2.38; diff = .28, F(1, 87) = .61, p > .2).}\]
however, the perception of personal risk of contracting an alcohol related disease was higher when the high threat message was framed at a high ($M = 2.38$) vs. a low ($M = 1.70$) level of construal. This effect was just short of significance (diff = .68; $F(1,87) = 3.77, p = .056, \eta^2_p = .04$); while the impact of construal level on perceptions of risk in the low threat condition did not reach significance ($M_{lc} = 2.3$ vs. $M_{hc} = 2.1$; diff = .2, $F(1,87) = .33, p > .2$). There were no main effects of either construal level ($F(1,87) = .87, p > .2$) or threat to freedom ($F(1,87) = .43, p > .2$) (see appendix two for the table of ANOVA results).

Figure 4.3 – Study One Estimated Marginal Means of Perceptions of Personal Risk of Contracting an Alcohol-Related Illness
4.4.5. Process vs. Outcome Thoughts

The measure of process thoughts and that of outcome thoughts were both subjected to a full-model ANOVA (2 x 2) analysis. The results showed no significant impact of level of construal or threat to freedom on either measure (all ps > .2), nor were there any significant interactions to report (see appendices three and four for ANOVA tables).

4.5. Discussion

4.5.1. Receptivity to Message Information

The results of study one provided support for hypothesis H1, which predicted greater openness to high threat message information at high (vs. low) levels of construal; while no effect of construal level was observed for the low threat, control message. In high threat condition, the target message restricted participants’ previously held freedom of deciding how much alcohol to consume. As a result, those who received the message in its low construal form became motivated to ameliorate the ensuing feelings of discomfort, and did so by lowering their willingness to accept the information presented in the message. When the high threat message was framed at high levels of construal, however, this effect did not occur. It was in fact reversed, and participants became more receptive to the message information.

According to the argument suggested in this research, these results would be linked to differences in persuasion knowledge activation and use at high vs. low levels of construal. A greater use of these knowledge structures at low levels of construal, activated by the presence of the threat to freedom as a cue of persuasion knowledge,
would lead to increased feelings of reactance, and a need to restore freedom by reducing one’s openness to the message information. At high levels of construal, on the other hand, and with a lower use of persuasion knowledge, there would be reduced feelings of reactance and a greater willingness to accept message information.

4.5.2. Alternative Explanations

An alternative explanation for the results, however, could lie in the apparent importance of the message to the self. A high level of construal, given its association with greater distances and more abstract representations, could be argued to reduce the perceived personal relevance of a freedom restricting message, thus diluting the strength of the threat and reducing reactant feelings - an effect which would be reflected in higher levels of information receptivity, as observed in study one. A low level of construal, conversely, would make the message appear “closer” and so more pertinent to the self. The restriction on freedom would similarly appear more threatening, and so openness to the message information would be reduced.

The results of study one, however, did not support this view. Rather than reduce the perceived personal relevance of the high threat message, framing it at a high level of construal increased it. Participants rated themselves as significantly more at risk of contracting an alcohol related illness when the high threat message was framed at high, rather than low, levels of construal. If the observed interaction between level of construal and threat to freedom, and the significant impact of construal in the high threat condition, were a result of differences in perceptions of closeness or relevance, though, the opposite pattern should have emerged. Instead, the results for personal risk essentially replicated those for information receptivity.
Thus, the results not only ruled out an explanation of the results based on relevance, they also provided additional evidence in support of interaction between threat to freedom and construal level. Namely, the role of high levels of construal in ameliorating reactance effects to high threat messages. In study one, this reduction in reactance was evident in both an increased openness to the message information, and a rise in perceptions of personal risk.

Faced with an imposition on their freedom (in the high threat message), participants in the low construal condition became motivated to restore their freedom, and did so by becoming less open to the message information, and as a result, also to the possibility that they themselves might suffer the consequences of excessive alcohol consumption. This was consistent with both reactance, and research showing defensiveness and discounting among high involvement participants in the face of messages which threaten their self-integrity (Sherman, Nelson, and Steele 2000; Burgoon et al. 2002).

At high levels of construal, in contrast, both information receptivity and willingness to accept the personal relevance of the high threat message were higher. Although their freedom was still imposed upon, participants appeared less reactant – they were more open to the message information, and accordingly, also more willing to accept that the negative health consequences described in the message could apply to them; as reflected in their higher estimates of the likelihood of contracting an alcohol related illness.

The results of study one also fail to provide support to an explanation of the interaction between threat to freedom and construal level based on shifts in emphasis.
between construal conditions. According to this argument, high levels of construal would lead to greater message openness by putting the focus on the desirable goals and outcomes presented in the message, whereas low levels of construal would reduce receptivity by shifting emphasis onto the potentially difficult feasibility issues surrounding the process of achieving those outcomes. Furthermore, this effect would be present for both levels of threat.

In reality, however, this pattern only held for the high threat message, toward which there were indeed greater levels of receptivity at high (vs. low) levels of construal. For the low threat message, the impact of construal level did not reach significance, and the trend was in the opposite direction (i.e. greater openness at low vs. high levels of construal). Furthermore, the measures of process and outcome considerations taken also failed to show any significant changes between construal conditions, for either level of threat to freedom. These results tend to suggest that shifts in emphasis between desirability and feasibility considerations, or outcome and process thoughts, do not underlie the interaction between threat to freedom and construal level. In order to fully rule out this explanation, however, study two was designed so as not to contain any desirability or feasibility issues, in order to verify whether the same results would hold in the absence of such considerations.

4.5.3. The Low Threat Message

The impact of construal level for the low threat message failed to reach significance, for both information receptivity and perceptions of personal risk of contracting an alcohol related illness. This was consistent with prediction, and lent further support to the notion that the interaction between construal level and threat
to freedom does not result from shifts in emphasis or changes in perceptions of personal risk, but rather from changes in the activation and use of persuasion knowledge. As a freedom of action was not imposed upon in the low threat condition, there was no obvious cue to activate persuasion knowledge and produce feelings of reactance at either level of construal. Given the absence of reactance effects, there were also no differences in receptivity or perceptions of risk between the construal conditions.

Indeed, if there were to be an effect of construal level on the low threat conditions, it would likely be one of greater information receptivity and perceptions of risk at low (vs. high) levels of construal. At low levels of construal the message would tend to appear closer and possibly more relevant to the self, without however, activating persuasion knowledge by making the threat to freedom more salient. At high levels of construal, on the other hand, the message would tend to appear more distant, and less personally relevant. This is consistent with the results of study one – although the impact of construal level on the low threat message did not reach significance, the pattern was indeed one of greater receptivity and estimates of risk when the low threat message was framed at low (vs. high) levels of construal.

The results for the low threat condition also cast doubt on the explanation based on the shifts in emphasis which have been shown to occur between levels of construal, because such reversals in focus between higher and lower order message features or considerations (for instance, between desirability and feasibility concerns) would be expected to hold in a similar manner independently of level of threat present in the message.
5. Study 2

Study one provided initial evidence for the predicted pattern of results: the data showed interactive effects between threat to freedom and level of construal, and as envisaged in H1, there was greater receptivity to the high threat message information at high (vs. low) levels of construal. Study two aimed to both replicate and extend these results. The design was similar to that of study one, but both the context (the message medium and its topic) and the construal level manipulation were altered in meaningful ways. The objective was to see whether the same pattern of results would hold with the introduction of these changes.

With respect to the construal manipulation, in study two this was removed from the target message, and instead primed prior to message exposure, in an ostensibly unrelated exercise. As noted before, not all of one’s knowledge or related information is brought to bear in any given decision making or evaluation situation (Wyer and Adaval 2009). Rather, a subset of that knowledge is used - that which is most accessible in memory; either because frequency of use has made it chronically accessible in memory, or because it has been recently activated (ibid; cf. Bargh 1997; Wyer and Srull 1989). Thus, a person’s response to any given situation depends on the cognitions which are accessible to her at that point in time; and this accessibility, in turn, depends on the frequency and/or recency with which that cognition has been used. This means that even “objectively irrelevant experiences”, or experiences which have occurred outside of conscious awareness, can influence the accessibility of knowledge structures, and cause them to be used in making a judgment or evaluation (ibid, p. 25).
Priming “refers to the incidental activation of knowledge structures, such as trait concepts and stereotypes, by the current situational context” (Bargh et al. 1996, p. 230). Any given construct is “linked in memory to a host of characteristics and behavioural tendencies”, and as such, independently of whether it is activated through “actual experience” or by “mere exposure to [related] cues”, the “same associated concepts and tendencies” will be activated (Smith and Trope 2006, p. 580). By using prompts to increase the accessibility of a particular construct or category in one’s memory, priming makes that construct more likely to be used. The effectiveness of such procedures has been shown in a variety of contexts, revealing “the capacity to automatically process stimuli to relatively deep levels of meaning”, and in the absence of conscious perception (Klinger et al. 2000, p. 442).

Furthermore, priming allows any “issues of conscious awareness and intent” to be removed, and at the same time functions “in the same manner as actually experiencing” a concept (Smith and Trope 2006, p. 580). Bargh et al. (2001), for instance, show that “primed information processing goals produce the same outcomes as goals that have been activated by a conscious act of will” (p. 1015). Research has also shown primed levels of construal to lead to the same changes in processing, preferences and evaluations as when construal levels are altered within the message or in the experimental instructions (Fujita et al. 2006).

It was therefore expected that this would hold in study two, and that a pattern of results similar to that of study one would emerge when construal level was primed, rather than manipulated in the message framing. Specifically, it was expected that there would be an interaction between threat to freedom and the primed level of
construal, and that participants would be more open to message information when primed with high (vs. low) levels of construal. Replicating the results of study one using a prime would extend those results by more clearly pointing to the role of construal level in causing the observed shifts in information receptivity.

The second major change in study two was that of context - the target message referred to university level elections and was presented as an extract from an independent newspaper. This added to the findings of study one, in terms of the expectations held with regard to the message, and the test of construal level effects on reactance to high threat communications thus provided. Specifically, it is possible that the target message used in study one may have created an unusually high tolerance for the restriction imposed on readers’ freedom, by virtue of its topic and the format of the communication.

Public service announcements, such as that used in study one, typically present a single acceptable course of action and frequently make use of strong and directive language. These characteristics may therefore have been perceived as routine and as less threatening than if they had appeared in a different context. Furthermore, participants may have considered such forcefulness more acceptable or even necessary, due to the message topic – that of moderating alcohol consumption – an issue potentially perceived as being for the “greater good”. Participants may therefore have understood the imposition on freedom as a “situational requirement” (Worchel and Andreoli 1974, p. 244), which has been shown to reduce the experience of reactance (ibid).
In study two, however, with a newspaper article on university level elections as the target message, there would have been neither an expectation of forcefulness, nor the perception that such forcefulness might be acceptable due to the topic at hand. In fact, in this respect, the study two message could be seen as lying at the other extreme of the continuum from that used in study one - forcefulness is not expected, considered justified or likely to be tolerated in a presumably impartial newspaper article. To the extent that this resulted in stronger reactance effects, it allowed study two to provide a stronger test of the impact of construal on openness to freedom threatening messages.

The change in context in study two also more narrowly defined the type of threat under scrutiny. Specifically, interest in this research lay in threats to freedom of action or choice, and not threats to global self-integrity (Steele 1988; Sherman and Cohen 2002). The target message in study one, however, in addition to the threat to freedom, contained health risk information related to the consequences of excessive alcohol consumption. As such, it is likely to have also imposed on participants’ perceptions of themselves as “healthy and adaptive” individuals (Sherman and Cohen 2002, p. 121); i.e. on a part of their self-integrity, their “perception of themselves as globally moral, adequate and efficacious” (Sherman et al. 2009, p. 745).

In study two a restriction was placed on participants’ autonomy to decide on the relative merits of two candidates for themselves. Participants’ degree of freedom of choice was altered by either imposing the suitability of one candidate over another in the high threat condition, or not in the low threat condition; but the message contained no threats to self-integrity more generally. Thus, study two allowed for a
more clear delineation of construct boundaries, and narrower focus on threats to freedom.

Study two also aimed to provide further insight as to the underlying mechanism to the observed relationship between level of construal and threat to freedom. It did so by trying to exclude an explanation based on desirability-feasibility focus (which could have been argued to underlie the results of study one); as well as by providing initial evidence for an explanation based on level of detail and persuasion knowledge use, through a measure of perceived message neutrality.

One of the most well-established findings of the construal level literature pertains to the observed changes in emphasis between levels of construal. At high levels of construal, there tends to be a greater relative focus on higher order features, “primary, essential characteristics”, whereas at low levels of construal, greater weight is placed on lower order features, and “secondary, peripheral characteristics” as the “basis for evaluation” (Trope et al. 2007, p.83). For instance, desirability considerations outweigh feasibility concerns at high (vs. low) levels of construal, pros outweigh cons and central features are focused over peripheral ones (Trope and Liberman 2010).

Thus, an argument based on these shifts in relative emphasis would be plausible for study one. The greater focus on the ultimate goal and the desirability of moderating alcohol consumption at high levels of construal would have made participants more open to the high threat message information in that condition. At low levels of construal, in contrast, greater weight would have been placed on feasibility issues, and the potentially difficult steps involved in achieving the goal of
moderating alcohol consumption, such that information receptivity would likely be lower.

The context of study two, however, involved no feasibility or desirability issues, nor the consideration of pros vs. cons. The message did not require participants to change their behaviour, nor consider any particular course of action. It merely depicted an election scenario and the candidates within it. Therefore, if the same pattern of results from study one was to occur in study two, it would appear to rule out an explanation based on feasibility-desirability considerations.

Finally, study two also included a new dependent measure, related to perceptions of message neutrality, as an initial indicator of a process explanation based on level of detail and persuasion knowledge use. It is possible that rather than increasing persuasion knowledge use as argued in the hypotheses, a higher level of construal directly changed participants’ attitudes with regard to threats to freedom; for instance, by making them more laid back with respect to manipulative tactics. If this was the case, then study two should display no differences in levels of perceived message neutrality between construal conditions.

If there are shifts in persuasion knowledge use between construal conditions, however, this should be reflected in the levels of perceived message neutrality. Specifically, message neutrality should be lower at low levels of construal, when more message details are considered and persuasion knowledge is activated; and greater at high levels of construal, when fewer message details are considered and persuasion knowledge remains inaccessible. Persuasion knowledge increases message scrutiny and makes both its one-sidedness, and the threat to freedom as a persuasion tactic,
more apparent than if persuasion knowledge is not being applied. The expectation was therefore of greater perceptions of high threat message neutrality at high (vs. low) levels of construal.

5.1. Design and Participants

Study two also followed a 2 (level of threat to freedom: high vs. low) X 2(construal level: high vs. low), between subjects design. Undergraduate students from the University of Sydney participated in exchange for either two course credit points, or a payment of up to $20. Those receiving course credit were recruited through a student subject pool, while those receiving payment volunteered in response to ads placed in the University computer labs.

176 students participated, 91 women and the average respondent age was 22 (12 participants failed to answer these questions). Data points from one session, composed of 10 participants, were discarded, because circumstances outside of the control of the researcher meant that the experimental environment could not be controlled with respect to noise levels and the avoidance of interruptions, which would have interfered negatively with the quality of the data. Four further participants were dropped from the analysis for failing to follow instructions. In addition, because the construal manipulation was highly dependent on language skills, participants were only included in the analyses if English was their first language. For 79 of the participants, it was not.

Screening procedures were not used at the outset, because the aim was to collect as many data points as possible, in addition to interest in potential cultural differences
among respondents. In practice, however, it soon became apparent that due to its dependence on language skills, the manipulation used for priming construal level would not be effective for those whose first language was not English; as reflected in the high number of questions in the priming exercise left unanswered, as well the amount of time required to carry out the priming tasks, which in many cases for non-native speakers exceeded that required for the main study. Finally, participants were screened with respect to their perceptions of how realistic the message was. This was deemed necessary in order to ensure the quality of the results, because of the context of study two. The target message in this study was presented as coming from a local newspaper, but it was not (in the high threat condition) unbiased, as newspaper articles presumably ought to be. If the message was not perceived as genuine, this could have affected receptivity to its content, independent of the effects of threat and construal level. The final sample was thus composed of 63 participants (32 female), with ages ranging from 18 to 38, and a mean age of 22.

5.2. Target Message and Independent Variable Manipulations

Study two used an electoral context, and participants were asked to imagine it was time to elect their University Student Union Board Director, at a particularly critical time due to proposed changes in the University’s fees and examinations systems. The target message was an ostensible newspaper article, describing the two main candidates to this position: James Smith and Richard Jones. It mentioned their age, degree, course average, experience and where they were born, all of which were broadly equivalent. For example, where one was studying mechanical engineering, the other was studying civil engineering (see fig 5.1).
... While such elections would normally go unnoticed outside of student circles, the proposed changes to Universities' fee and examinations systems have put this particular election, and its contenders, in the spotlight:

<table>
<thead>
<tr>
<th>Candidate 1</th>
<th>Candidate 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
<td><strong>Name:</strong></td>
</tr>
<tr>
<td>James Smith</td>
<td>Richard Jones</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td><strong>Age:</strong></td>
</tr>
<tr>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td><strong>Born in:</strong></td>
<td><strong>Born in:</strong></td>
</tr>
<tr>
<td>South Australia</td>
<td>Victoria</td>
</tr>
<tr>
<td><strong>Degree:</strong></td>
<td><strong>Degree:</strong></td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td><strong>Course average</strong> (thus far):</td>
<td><strong>Course average</strong> (thus far):</td>
</tr>
<tr>
<td>73</td>
<td>71</td>
</tr>
<tr>
<td><strong>Experience:</strong></td>
<td><strong>Experience:</strong></td>
</tr>
<tr>
<td>gap year working as a team leader in a Non-Governmental Organisation</td>
<td>President of the Engineering Undergraduate Association</td>
</tr>
</tbody>
</table>

There is no doubt that both candidates have the background and experience required to be successful as Union President at this critical juncture in the University's history.

Figure 5.1 - Example of Study Two Target Message (Low Threat Condition)

The threat manipulation was contained within the message. Although the candidates were actually very similar, in the high threat to freedom condition, the article concluded stating that “there is no doubt that James Smith has the background
and experience required to be successful as Union President at this critical juncture in the University's history”. The low threat version indicated that “there is no doubt that both candidates have the background and experience required to be successful as Union President at this critical juncture in the University's history” (emphases added).

It is worth noting that this was a rather subtle manipulation; for the sake of realism, subjects were not instructed to vote for one candidate or another, nor was the language used particularly forceful. However, given the support for reactance effects in the literature, it was hoped that even such a slight manipulation would be considered threatening enough to produce the desired effects. By making a strong statement in favour of one candidate over the other, the message was effectively hampering readers’ freedom to reach their own conclusions with regard to candidate suitability. In this regard, it has previously been proposed that “any directive phrase is a threat to the hearer’s freedom, being perceived as an external force that is meant to influence choice” (Kronrod et al. 2009).

The construal level prime was taken from Fujita et al. (2006), studies 3a and 3b). Participants were given a list of 40 words, such as “king”, “pasta” and “soap”, and were asked to indicate either what group the words belonged to, i.e. their “super-ordinate category”; or to provide an example (indicate a “subordinate exemplar”) of each one. For instance: “King is an example of what?” for generating categories (high construal) vs. “An example of King is what?” for generating exemplars (low construal).

The expectation was that generating super-ordinate categories, by directing people toward greater abstraction, would lead them to process at higher levels of construal; while producing exemplars meant thinking more concretely, in terms of
lower level subordinate categories, and so would trigger lower level representations. In the Fujita et al. (2006) studies, participants who generated category labels had significantly more abstract responses than those providing subordinate exemplars.

5.3. Procedure and Dependent Variables

Sessions were run in computer labs in groups of up to 12 participants, seated in front of individual computers. After viewing the information statement and signing the consent form, participants were asked to complete an ostensibly unrelated “creative expression exercise”, pertaining to objects and their categories. This was carried out in paper and pencil and constituted the construal manipulation described above. Once they had completed the priming exercise, participants moved on to the second task, carried out on individual computers.

This was presented as an “Impression Formation Study”, purportedly examining how people form impressions of others based on limited information. Participants were asked to read a short text, which briefly described two people – the candidates to the position of Student Union Board Director - and then answer some questions, regarding both the candidates and the text itself. None of the participants expressed suspicion of a link between the two tasks, nor indeed that there was any pattern to the first exercise, i.e. that it was a prime.

The questions which followed the target message contained the main dependent variables, as well as the manipulation checks. The same measure of receptivity to message information was used as in study one, composed of four items relating to the credibility, trustworthiness, expertise and qualification of the message and its source.
(α = .65). A measure of perceptions of message neutrality was also included, and was composed of three items gauging participants’ level of agreement on a seven point scale (where 1 = not at all and 7 = completely agree) with statements regarding the “accuracy”, “fairness” and “neutrality” of the message (α = .73).

Finally, the manipulation check for threat was the same as in study one. Participants were asked to what extent they agreed that the message was “dogmatic”, “tried to manipulate” them, and “tried to pressure” them, on a seven point scale where 1 = not at all and 7 = completely agree (α = .74).

5.4. Results

5.4.1. Manipulation Checks

A one way ANOVA was carried out for threat to freedom, and the results confirmed that participants in the high threat condition perceived the message to be significantly more restrictive of their autonomy (M = 4.39) than those in the low threat condition (M = 2.38; diff = 2.01, F(1, 61) = 34.24; p < .001, $\eta_p^2 = .36$).

5.4.2. Information Receptivity

A full model (2 x 2) ANOVA was carried out for receptivity to message information. The results showed a significant interaction between threat to freedom and construal level (F(1, 59) = 7.12; p < .05, $\eta_p^2 = .11$). Furthermore, as predicted in H1, and

$^{3}$ Participants primed with low levels of construal were significantly more open to the information contained in the low (M = 4.20) vs. high threat message (M = 3.07; diff = 1.13, F(1, 59) = 15.90; p < .001, $\eta_p^2 = .21$); but this difference became non-significant (F(1, 59) = .03, p > .2) when participants were primed with a high level of construal (M$_{ht}$ = 3.85 vs. M$_{ht}$ = 3.91; diff = .06).
consistent with the results of study one, there was also a significant effect of construal level on information receptivity in the high threat condition. Participants were significantly more receptive to the information contained in the high threat message when they were primed with a high (M = 3.91) rather than a low level of construal (M = 3.07; diff = .84, F(1, 59) = 6.49; p < .05, \( \eta_p^2 = .01 \)). The impact of construal level on the low threat condition was not significant (M_{hc} = 3.91 vs. M_{lc} = 4.2; diff = .29, F (1, 59) =1.35; p > .2). Finally, the results also showed a main effect of threat, such that participants were more receptive to the information contained in the low (M = 4.1) vs. high (M = 3.5) threat message (F(1, 59) = 5.85; p < .05, \( \eta_p^2 = .09 \)) (see appendix five for table of ANOVA results).

![Figure 5.2 – Study Two Estimated Marginal Means of Receptivity to Message Information](image-url)
5.4.3. Message Neutrality

A full model (2 X 2) ANOVA was also run for message neutrality. This revealed a marginally significant interaction between construal level and threat to freedom (F(1, 59) = 3.27, p = .076, η_p^2 = .05), parallel to the interaction found for information receptivity. As expected, participants perceived the high threat message to be more neutral (i.e. less biased) at high levels of construal (M = 3.52) than at low levels of construal (M = 2.70; diff = .82, F(1, 59) = 3.24; p = .077, η_p^2 = .06). Although marginal, this result is supportive of greater persuasion knowledge use at low (vs. high) levels of construal.

There was no significant impact of construal level (M_{hc} = 4.47 vs. M_{lc} = 4.75; diff = .28, F(1, 59) = .50, p > .2); but there was a predictable main effect of threat to freedom, such that the low threat message (M = 4.61) was perceived as significantly more neutral than its high threat (M = 3.11) counterpart (diff = 1.5, F(1, 59) = 24.41, p < .001, η_p^2 = .29) (see appendix six for table of ANOVA results).
5.5. Discussion

5.5.1. Receptivity to Message Information

Study two replicated the main outcomes of study one. Construal level interacted with threat to freedom to influence openness to message information, and in further support of hypothesis H1, participants showed greater receptivity to the high threat message information at high (vs. low) levels of construal. This is once more suggestive of an ameliorating effect of level of construal on reactance to freedom threatening messages.

Faced with restrictions on their freedom, consumers become motivated to reduce the resulting feelings of arousal, and restore the threatened freedom (Brehm 1966). When the threat appears in a persuasive message in particular, an easy way to proceed
with this restoration is to close oneself off from the message content. In study two, however, as in study one, participants apparently felt less need to do so at high (v. low) levels of construal, whether this was achieved via message framing or through non-conscious priming. This was reflected in the higher levels of information receptivity for the high threat message at high (vs. low) levels of construal.

In addition to replicating the pattern of results from study one, further supporting the existence of a relationship between threats to freedom and level of construal, study two also more clearly defined the boundaries of this interaction. Specifically, study two used a threat which imposed solely on participants’ freedom, and so clarified the nature of the threats under analysis – those impacting on freedom of action or choice, rather than on readers’ sense of self-integrity more generally. In addition, using a construal level prime provided further evidence that this variable was indeed at the root of the observed changes in openness to high threat message information.

5.5.2. Underlying mechanism

Study two also provided further insight into how construal level impacts on receptivity to high threat message information – its design aimed to rule out an explanation (that based on desirability-feasibility focus) and provide initial evidence for another (that based on the role of persuasion knowledge). Contrary to study one, where the target message asked participants to consider a particular course of action, and implied behavioural changes (in the amount of alcohol consumed), study two did not entail any consequences for participants’ behaviour. As such, whereas in study one participants would have considered the desirability and feasibility issues involved in
changing their behaviour, in study two, there were no such concerns. The fact that the same pattern of results was replicated in the absence of desirability-feasibility (or pro-con) concerns suggests that this cannot, therefore, constitute the process whereby level of construal affects consumers’ openness to high threat message information.

In addition to clarifying the role of desirability-feasibility concerns, study two also provided initial evidence regarding the potential influence of persuasion knowledge in the relationship between threats to freedom and levels of construal. Specifically, study two revealed significant differences in perceptions of message neutrality between construal conditions: participants rated the same high threat message as more neutral when they were primed with high (vs. low) levels of construal. This pattern is consistent with the notion that the message was being considered in greater detail, and its characteristics more carefully scrutinised, at low levels of construal - leading its persuasion tactics and one-sidedness to be recognised and “called out”.

A competing perspective would be to consider the differences in information receptivity as a reflection of a generally more “laid back” or careless attitude at high (vs. low) levels of construal. However, had that been the case, we would not expect to see changes in perceived message neutrality – effects driven by such changes in attitude should be reflected directly on information openness, without implying greater levels of message scrutiny or attention to its detail and persuasion tactics; i.e. without being reflected in perceptions of message neutrality.

When a consumer accesses persuasion knowledge, on the other hand, because she is considering the message at a greater level of detail, she is also more likely to focus on its lack of neutrality and to report this fact. Indeed, one-sided communication has
been noted as a particularly strong source of reactance, especially when consumers “expect to hear both sides of an issue” (Clee and Wicklund 1980, p. 401). A consumer who does not access persuasion knowledge, due to high construal processing and so consideration of fewer message details, by contrast, might overlook the lack of neutrality of high threat messages.

The results for the measure of message neutrality support this view; in particular since the differences in perceptions of neutrality across construal conditions occur for the high (but not the low) threat message. In the absence of a threat to freedom, there is no trigger for persuasion knowledge use, and issues of message neutrality are less likely to be noticed or reported. On the other hand, if the shifts in information openness had stemmed from general attitudinal differences between levels of construal, this should have been manifest for both levels of threat.

**5.5.3. The Low Threat Message**

As noted above, the impact of construal level on the low threat message did not reach significance, for either perceptions of message neutrality or openness to message information. This is consistent with both prediction and the findings of study one, and lends support to a perspective of the interaction between level of construal and threat to freedom based on differences in the considerations of details and persuasion knowledge use. The impact of construal level appears to be at the level of the motivation to restore threatened freedoms, such that absent a restriction on freedom, there are no differences in information receptivity, or perceived message neutrality, between levels of construal.
The results of study two are also suggestive of an important role of context in the occurrence of reactance effects. This study used a newspaper context, in which a threat to freedom would clearly fall outside of normal consumer routines (Briley et al. 2011), making persuasive intent more salient and leading consumers to question the fairness and manipulative intent of the message (Friestad and Wright 1994). As a result, it also produced significant differences in levels of information receptivity and perceived message neutrality between threat conditions despite using a relatively subtle manipulation of this variable.

The fact that participants were both more open to the information contained in the low, rather than the high, threat message, and perceived it to be more neutral is consistent with reactance theory and attests to the ease with which such effects can be aroused. The high threat message in study two neither gave participants a direct order, nor used forceful language. Nonetheless, by merely removing from them the opportunity to reach their own conclusions with regard to the relative merits of the two candidates, it produced significant changes in perceptions.

Study three returned to a public service announcement type message, albeit with a stronger manipulations of threat, and a considerably less well publicised topic (coffee consumption – also used in Liberman and Chaiken 1992 and Sherman et al. 2000). More importantly, it aimed to more directly test for level of detail as the underlying mechanism for the influence of construal level on information receptiveness.
6. Study Three

The results of the first two studies provided a consistent pattern of results, whereby participants were more receptive to the information contained in freedom threatening messages at high (vs. low) levels of construal. This established the basic effect, and suggests consumers’ feelings of reactance to freedom limiting persuasive messages can be mitigated by the level of construal at which they process such messages, such that doing so at high levels of construal makes them more open to message information. This is an important pre-requisite for the achievement of other message objectives, such as attitudinal or behavioural changes.

The main objective of study three, however, was to examine how this effect was taking place; specifically, to test for the role of detail level, and associated use of persuasion knowledge, as its underlying mechanisms. Alternative explanations based on desirability-feasibility (study two), or on the perceived personal relevance of the message information (study one) failed to find support in the preceding studies. In addition, study two presented initial evidence of greater persuasion knowledge use at low (vs. high) levels of construal, reflected in lower perceptions of message neutrality in that condition. Study three thus proposed to not only once more replicate the main pattern of results – i.e. an interaction between level of construal and threat to freedom, and a greater receptivity to high threat message information at high (vs. low) levels of construal - but also provide a test of level of detail as the mechanism underlying that result.
With regard to detail, it is important to note that although fewer details are considered at high (vs. low) levels of construal, this greater abstraction does not imply less thorough or detailed processing of the information (Smith and Trope 2006). The distinction is not “about stages of perception”, but rather about the “perceptual analysis of whatever is attended to (Navon, 1977, p. 355)” (Smith and Trope 2006, p. 580). Indeed, extracting the gist of something can sometimes be “even more effortful than simply absorbing the details” (ibid, p. 580). Nonetheless, the fact remains that lower level construals do include more details, and are typically more contextualised than their schematic, high construal counterparts (Fujita et al. 2006).

Indeed, as one moves toward higher levels of construal or abstraction, certain object or event features get left out; namely those details which are considered irrelevant or “inconsistent with the chosen abstract representation”, and which are either omitted from, or assimilated into, the chosen representation (Liberman et al. 2002, p. 524). Thus, “for example, in replacing ‘waving the hand’ with the more abstract construal ‘showing friendliness,’ the fact that one used one’s hand is omitted (Semin & Fiedler, 1988)” (ibid).

These differences in detail level are not without consequence. They explain the differences between predicted and actual moods at different times of the day or days of the week described in the literature review, for instance. Because “events on the immediate horizon are conceived in terms of specific details and the ease of implementation”, one’s actual mood on a Monday morning, for example, may be driven by such details (e.g. “an email containing good news”), and so greatly surpass
the mood predicted for that day when considering “the prospect of returning to work” (Areni and Burger 2010, p. 5).

Kardes, Cronley, and Kim (2006) note the impact of these differences in contextual details on product representations and evaluations; in particular with respect to whether or not products are physically present. When they are, “lower-level construals containing greater contextual details and greater imagination-provoking properties are formed”; whereas when products are absent, it is difficult to imagine their use, and “product evaluation is likely to be difficult and susceptible to measurement effects” (Kardes et al. 2006, p. 138).

In the context of persuasive messages, the difference in levels of detail is likely to be reflected in the number and kinds of message characteristics noted and considered when evaluating the message. Low level, more detailed representations will tend to include a greater number of message features, including more peripheral aspects; whereas high level representations will omit or subsume certain details, focusing more on the message’s central characteristics. Thus, at high levels of construal, the emphasis is likely to be on the message content and what it is trying to communicate; while at low levels of construal, additional aspects, such as the tone of the message, its format, or contextual details regarding who it was written by and for what reason, might also be considered.

Such considerations, in turn, can be expected to impact on the level of persuasion knowledge used, because there is more elaboration on the message – its “appropriateness (fairness, manipulativeness, respectfulness)” (Friestad and Wright 1994, p. 14) – as well as on it source and the ulterior motives behind it – “the
appropriateness of an agent’s actions” (ibid, p. 5). When the message contains a threat to freedom, a low level of construal and so greater consideration of detail, is also likely to increase the salience of that threat. The threat becomes more likely to be noticed and considered, and as such is more likely to serve as a cue to persuasion knowledge use. This is the more so, the more ‘out of place’ and disruptive of routine the threat appears (Briley et al. 2011).

At high levels of construal, in contrast, because fewer message details are considered, it is less likely that the threat to freedom will be noted and taken into account. Because it is less salient, the threat is also less likely to activate persuasion knowledge, or lead consumers to reflect on the fairness/appropriateness of the persuasive techniques used. As a result, it is also less probable that it will lead to feelings of reactance and the associated need to restore the threatened freedom. The greater use of persuasion knowledge at low levels of detail, on the other hand, is expected to lead consumers’ to “raise their guard”, and reduce information receptivity. Persuasion knowledge, in this latter case, leads to a “change of meaning”, significantly affecting the manner in which events are interpreted and responded to (Friestad and Wright 1994).

6.1. Design and Participants

In order to test for the role of detail level, study three aimed to replicate the results of study one using a similar design, but substituting level of detail for level of construal. The study thus followed a two (threat level: high vs. low) by two (detail level: high vs. low) between subjects design. Presumably, if detail level underlies the
observed effect of construal level on information openness, directly manipulating this variable should affect receptivity in the same way that manipulating construal level does. This form of “determining the underlying psychological process” has been argued to be “as reliable as using the statistical mediation analysis” (Rim et al. 2009; cf. Spencer et al. 2005).

Seventy-two undergraduate students from the University of Sydney participated in the study, in exchange for either course credit (two credit points), if they were recruited through the participant pool, or a payment of $15, if they were answering ads. Ten participants were excluded from the main analysis - eight because they expressed suspicion about the purpose of the study, its relation to directive messages in particular; one because she suspected a link between the two parts of the study; and one because she was much younger than the group average (16) and not yet enrolled in the University. This left a total of 62 participants, of which 38 were female. Ages ranged from 18 to 38, and the average age was 21.5.

6.2. Target Message and Independent Variable Manipulations

The target message was introduced as a Public Service Announcement, and related to the potential negative effects of excessive coffee consumption on mental health. Coffee related health messages have been used in past research (Liberman and Chaiken 1992; Sherman et al. 2000), in which participants were presented with articles linking coffee consumption to breast cancer/fibrocystic disease. Because such information would only be relevant, and so reactance producing, for coffee drinking women, the message was adapted to refer to more wide reaching consequences of excessive coffee consumption.
It was reasoned that a coffee related message would be relevant to most participants, but constitute a less familiar topic than the alcohol consumption message of study one. At the same time, it allowed a return to a Public Service type message format. The information presented was taken from various websites regarding the possible consequences of excessive coffee consumption, but did not quantify what “excessive” means, so as not to reduce relevance to participants\(^4\).

The threat manipulation was included in the message, through its concluding statement. After stating the potential negative consequences of excessive caffeine consumption, the high threat condition message told participants to “preserve your mental health: don’t drink coffee”; whereas the low threat message stated that “in the interests of your health, you may want to moderate your coffee intake”.

\(^4\) Gilliland and Bullock (1984) note the difficulty of determining “exactly what level of caffeine consumption constitutes abuse”; in particular due to the “wide individual variation in response to caffeine” (p. 54). Notwithstanding, “in general, an intake of 500 to 600 mg of caffeine per day (approximately 7 to 9 cups of tea or 4 to 7 cups of coffee) is regarded as representing a significant health risk” (James and Stirling 1983, p. 251).
As a small, lipid-soluble molecule (like alcohol and nicotine), caffeine is one of the few substances capable of penetrating the blood-brain barrier, critical to maintaining cerebral homeostasis.

Nearly 80% of the world's population uses caffeine, and 25% of the population is diagnosed with a mental disorder. Clinical studies indicate that there may be significant overlap between those figures.

- A significant number of people over-ingest coffee and suffer the physical and/or psychological effects of caffeine poisoning
- People experience intensified stress and psychotic experiences due to excessive caffeine consumption.
- People increase their risk of experiencing hallucinations as well other psychoses such as delirium, manic depression, schizophrenia, or anxiety syndrome by consuming too much caffeine

Because self-awareness is one of the first casualties of a toxic brain, caffeinism victims may not even suspect they are ill or (if they do) that caffeine is at the root of their symptoms.

Preserve your mental health: don’t drink coffee!

Figure 6.1 - Example of Study Three Target Message (High Threat Condition)
Detail level was manipulated in the instructions, following a procedure similar to that used in Briley and Aaker (2006). Although participants were all given the same amount of time to read the message (one and a half minutes), the instructions manipulated the amount of time pressure and consequently the thoroughness with which they did so. Participants in the high detail condition were told that most people take one minute to read the message and come to a clear evaluation, and thus were led to believe that they had plenty of time to read the message. They were also asked to read the message “as carefully and in as much detail” as they could. Those in the low detail condition, on the other hand, were told that most people take two minutes to read and evaluate the message, and thus were led to believe they would have little time to do so. They were instructed to get “an overall picture” of the message contents. In both conditions, the instructions included the pretext that the study was interested in understanding how people evaluate messages in real life, day to day situations.

6.3. Procedure and Dependent Variables

The sessions were run in computer labs in groups of up to ten. After participants’ had read the information statements and signed the consent forms, the purported aim of the research was explained: to collect university students’ impressions on different topical issues, as well as how interesting and relevant they found them to be. Participants were led to believe that target messages covered a range of different topics, of which they would be randomly assigned one; although in fact all received the target message in either its low or high threat format. Participants were then asked whether, since they were there, they would also be willing to fill in a separate survey
on drinks and brand of drink preferences. All the participants agreed to do so, with only one suspecting a link between the two studies (as noted above, this participant was excluded from the analyses). Embedded in this second questionnaire were questions regarding participants’ typical coffee consumption, and liking of coffee.

Once the studies had been explained, participants were then given the experimental booklet, the cover page of which contained the instructions and detail manipulation. Once the experimenter had ensured everyone had read the instructions, participants were told they could turn the page to the target message. They were given a minute and a half to read the message, which proved sufficient for all the participants to do so, and then proceeded to answer questions relating to the dependent variables, and manipulation checks. Once they had completed the first questionnaire, they were then given the second survey, which contained the coffee consumption related questions.

As per studies one and two, information receptivity constituted the main dependent variable, and was composed of the same four items relating to the “credibility” of the message, its “trustworthiness”, the “expertise” of its source and how “qualified” that source appeared to be. All the items were measured on a seven point likert scale, ranging from 1 = “not at all” to 7 = “completely agree” (α = 81).

Additionally, a measure of persuasion knowledge use was also included in study three. This contained items from both the persuasion knowledge scale, which tries to tap into individual differences in levels of persuasion knowledge (Bearden et al. 2001); and items from the Obermiller and Spangenberg (1998) scale, which measures attitudes and scepticism toward advertising - a manifestation of persuasion knowledge
use - in particular. All the items were measured on a five point scale, where 1 = strongly disagree and 5 = strongly agree. They were: “Advertising is generally truthful”, “Advertising is a reliable source of information about the quality and performance of products”, “I know when an offer is ‘too good to be true’”, and “I have no trouble understanding the sales tactics used by salespeople” (α = .56).

The expectation was that for the high threat message, persuasion knowledge use would be significantly greater at high (vs. low) levels of detail. For the low threat message, no difference was expected between detail conditions, because in the absence of a threat to freedom, there would be no salient cue of persuasion knowledge, nor a disruption of routine, to increase the use of these knowledge structures.

After these measures had been taken, participants also responded to checks on the manipulations used. The manipulation check for threat to freedom was the same as in the first two studies, and gauged participants’ perceptions of how “dogmatic”, “manipulative” and “pressuring” the message was on a 7 point scale (where 1 = not at all and 7 = completely agree; α = .65).

The detail manipulation check consisted of four items pertaining to both the detail in which participants considered the message and the extent to which they felt “close” to the message (α = .69). The measure of closeness was deemed important due to the link between levels of detail and levels of construal, and the association of this measure with perceived distances from the self. As construal level increases - and so fewer message details are considered – so does the perceived distance from an attitude object.
Participants were asked to indicate on a scale of one to five (where $1 = \text{strongly disagree}$ and $5 = \text{strongly agree}$) the degree to which they considered the message in “as much detail” as they could, tried solely to get “an overall idea” of the message (reverse coded), felt that the message was close to them, and considered that it contained recommendations for the immediate future.

Once they had completed the first questionnaire, participants moved on to the second one on drinks and brands of drinks, in which were included questions regarding coffee consumption and liking. Participants were asked whether they typically consume coffee (“yes” or “no”); and to indicate on a seven point scale how much they like this beverage (where $1 = \text{not at all}$ and $7 = \text{like it a lot}$).

6.4. Results

6.4.1. Manipulation Checks

The data confirmed that the high threat message ($M = 4.56$) was perceived as marginally more freedom limiting than the low threat message ($M = 4.01$; diff = .55, $F(1,60) = 3.31; \ p = .07, \ \eta_p^2 = .05$); and in concordance with reactance theory, the effects became more pronounced when only high involvement participants, i.e. those who stated they typically drink coffee, were considered ($F(1,31) = 6.19; \ p < .05, \ \eta_p^2 = .17$).

This is also consistent with the literature pertaining to threats to self integrity, and the defensiveness that results therefrom (e.g. Sherman and Cohen 2006). In the health domain, for instance, it has been found that greater message relevance to the self leads to greater message scrutiny (Kunda 1987), such that “individuals who have the
most to gain from health communications are often the least likely to accept them” (Sherman and Cohen 2002, p. 120). It is worth noting that defensive reactions in general can be adaptive, “in the sense of protecting or enhancing an individual’s self-integrity” (Sherman and Cohen 2006, p. 184). The problem arises, however, when they become “maladaptive” and “forestall learning from important, though threatening, experiences and information” (ibid. p. 184-5).

There was also a marginally significant effect of threat on coffee liking: coffee drinking participants who read the high threat message said they liked coffee more (marginal significance) than those who received the low threat version ($M_{ht} = 5.94$ vs. $M_{lt} = 5.25$, diff = .69 $F(1, 31) = 3.22; p = .08$, $\eta_p^2 = .09$). Although this was not a manipulation check per se, the pattern suggests that the manipulation was indeed effective. It is also consistent with reactance theory, to the extent that the high involvement participants who saw their freedom reduced displayed a sort of boomerang effect in their reported liking of coffee, which was higher in the high (vs. low) threat condition.

With regard to the manipulation check for level of detail, the results showed a marginally significant effect, such that those in the high detail condition considered the message in greater detail, felt that it was closer to them and was for more immediate consideration ($M = 3.41$) than those in the low detail condition ($M = 3.07$; diff = .34, $F(1, 31) = 3.15; p = .09$, $\eta_p^2 = .09$). It seems likely that the detail manipulation check could not pick up the full impact of the shift in consideration of details across conditions, however, because participants would not have been
completely aware of the influence of the manipulation, which was subtle, on their level of processing.

6.4.2. Information Receptivity

A full model (2 X 2) ANOVA was run for information receptivity, and revealed a significant interaction between detail level and threat to freedom (F(1, 58) = 5.52; p < .05, \( \eta^2_p = .09 \)). There was also the anticipated significant effect of detail level for the high threat condition: participants were more receptive to the message information when asked to consider the high threat message at low (M = 4.49) rather than high (M = 3.69) levels of detail (diff = .8, F (1, 58) = 3.94; p = .05, \( \eta^2_p = .06 \)). The effect of detail level on the low threat message did not reach significance (M_HD = 4.31 vs. M_LD = 3.69; diff = .62, F(1, 58) = 1.9, p > .1), nor were there any main effects of either threat (F(1, 58) = .94, p > .2) or detail (F(1, 58) = .94, p > .2) (see appendix seven for table of ANOVA results).

It is worth noting that to the extent that high levels of construal are associated with more schematic and less detailed representations, and low level construals with more contextualised and detail-rich representations, these results constitute a replication of the pattern found in studies one and two.

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5 At high levels of detail, participants were more receptive to the low (4.31) vs. high threat (M = 3.69) message information (F(1, 58) = 1.89; p > .1, ns), but this pattern was reversed (marginal significance) when the message was considered at low levels of detail (M_LD = 3.69 vs. M_HD = 4.49; F(1, 58) = 3.94; p = .05, \( \eta^2_p = .06 \)).
6.4.3. Persuasion Knowledge Use

A full model (2 X 2) ANOVA was also carried out for persuasion knowledge use. There was a marginally significant two-way interaction between threat to freedom and level of detail (F(1, 58) = 2.72; p = .10, $\eta^2_p = .05$), and the overall pattern paralleled that found for information receptivity. More important, there was a marginally significant effect of detail level for the high threat message condition. Participants presented with the high threat message made greater use of persuasion knowledge in the high (vs. low) detail condition ($M_{hd} = 3.92$ vs. $M_{ld} = 3.50$; $\text{diff} = .42$, $F(1, 58) = 3.35$; $p = .07$, $\eta^2_p =$

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6 Processing at low levels of detail led to greater persuasion knowledge use in the low (M = 3.81) vs. high threat condition (M = 3.50; diff = .31, $F(1, 58) = 1.84$; p > .1, ns); but when participants were considering the message high levels of detail, there was a greater use of persuasion knowledge associated with the high threat (vs. the low threat) message ($M_{ht} = 3.92$ vs. $M_{lt} = 3.68$; diff = .24, $F(1, 58) = .99$ ; p > .2, ns).
.05). As expected, there was no effect of detail level for the low threat message (M_{hd} = 3.67 vs. M_{ld} = 3.81; diff = .14, F(1, 58) = .324, p > .2, nor any main effects of threat to freedom (F(1, 58) = .028, p > .2) or level of detail (F(1, 58) = .642, p > .2) (see appendix eight for table of ANOVA results).

**Figure 6.3 – Study Three Estimated Marginal Means of Persuasion Knowledge Use**

### 6.5. Discussion

#### 6.5.1. Receptivity to Message Information

In order to test the proposition that the greater receptivity to high threat message information at high (vs. low) levels of construal was being driven by the different levels of detail associated with each level of construal, study three aimed to replicate the pattern of results from the first two studies using detail level rather than construal.
Thus, the expectation was that there would be greater receptivity to the high threat message information at low levels of detail (high construal) than at high levels of detail (low construal).

This was indeed the case. Consistent with hypothesis H2, when participants in high threat conditions perceived that they had limited time to read the high threat message, and aimed only to get an overall perspective of its contents, receptivity to the message information increased. When they believed they had more time and considered the message in greater detail, on the other hand, they became less receptive to its informational content. Given the association between levels of construal and detail, this result replicated the pattern from the first two studies, whereby participants were more open to information contained in a high threat to freedom message at high (vs. low) levels of construal. It also suggests that that interaction between construal level and threats to freedom was indeed driven by the level of detail at which the message was considered at different levels of construal.

6.5.2. Persuasion knowledge use

The impact of level of detail on information receptivity had been proposed to result from the differences in persuasion knowledge use at high (vs. low) levels of detail. Specifically, at high levels of detail more message features are considered, including less central elements such as the persuasion tactic used. Furthermore, in such conditions (high detail/low construal), there is a greater perception of objects as “unique and specific” (Fujita et al. 2006). As a result, a threat to freedom is not only more likely to be noticed when participants are considering the message at high levels of detail, but will also tend to appear more distinctive and personally directed. With
the threat to freedom assuming such a salient and routine disrupting form, persuasion knowledge is more likely to be activated and used.

At low levels of detail, on the other hand, fewer message features are considered; and as such, characteristics such as the persuasion tactics used or the threat to freedom, are less likely to be noticed and taken into account. With the focus on message content, then, the threat to freedom is expected to be less salient and less likely to serve as a cue to persuasion knowledge use. Thus, it had been anticipated (H3) that persuasion knowledge use would be higher when participants considered the high threat message at high vs. low levels of detail.

The results provided some support for this proposition. There was a marginally significant effect of detail level on persuasion knowledge use in study three, such that the use of these knowledge structures was greater at high (vs. low) levels of detail. This pattern furthermore corresponded to the reduced receptivity to information at low (vs. high) levels of detail described above. Plausibly, making greater use of one’s persuasion knowledge led to a greater scrutiny of the message, consideration of its ulterior motives, and a general raising of one’s guard; which in turn, was manifest in reactance effects – a need to restore the threatened freedom by closing oneself off from the message information.

This argument dovetails on previous research findings, for instance, relating to memory and attitudes towards product placements in television programs. Russell (2002) showed that while memory for a product placement improved when the modality of that placement (whether it was visual or auditory) was incongruent with the plot connection (“the degree to which the brand is integrated in the plot of the
story (Russell 1998)” - Russell 2002, p. 307); persuasion was enhanced when these features were congruent. This was because incongruent placements appeared “unnatural” and were “therefore discounted” (Russell 2002, p. 313).

Critically in terms of the current research, the author attributed this discounting to higher levels of persuasion knowledge use. “When a brand’s modality of presentation is not congruent with its level of plot connection, viewers tend to think about the reason for the brand’s presence in the show and raise their cognitive defenses (Friestad and Wright 1995). For instance, in the case of higher plot visual placements, an expectedly peripheral stimulus becomes a focal point of attention and the obvious focus on it makes it seem obtrusive and prompts counter argumentation. In contrast, when the modality and plot connection match, the placement seems more natural and less effort is spent on analysing why it is there, thereby making access to persuasion knowledge less likely (Campbell and Kirmani 2000)” (Russell 2002, p. 314).

The argument made here with regard to the impact of detail on the extent of persuasion knowledge use, and the resulting level of reactance experienced, parallels that described above. At high levels of detail, the emphasis on the threat to freedom played the same role as modality-plot incongruence in the research described above: it activated persuasion knowledge, and raised participants’ “cognitive defenses” (Russell 2002, p. 314), such that they experienced higher levels of reactance, reflected in a lower openness to message information. At low levels of detail, in contrast, as in the case of congruence, less energy was spent trying to analyse why the threat was there, and “access to persuasion knowledge” became “less likely” (ibid, p. 314).
**6.5.3. The Low Threat Message**

According to the argument presented, the differences in persuasion knowledge use for the high threat message at high (vs. low) levels of detail were bound to attention to the threat to freedom and its ability to activate persuasion knowledge and so raise participants’ guard. If this was indeed the case, then absent a threat to freedom to serve as a cue, persuasion knowledge would be less likely to be activated and used; and should not vary according to the level of message detail considered. Lending further support to the explanation presented above, the results conform: the impact of level of detail on persuasion knowledge use in the low threat condition was non-significant; as was its impact on information receptivity in that condition.

Absent a threat to freedom, there was little room for either persuasion knowledge use, or reactance effects, which would have been reflected in lower information receptivity. Indeed, absent a threat to freedom one might even expect greater persuasion knowledge use, and lower information receptivity at low (rather than high) levels of detail, since the message is being more closely considered and may be perceived as closer to the self. While not reaching significance, the results for the low threat message do reveal this pattern, for both persuasion knowledge use and information receptivity.

Finally, it is worth noting that despite the effectiveness of the threat manipulation in creating greater perceptions of pressure and manipulation, similar to study one, there were no main effects of threat in study three. This lends support to the notion that reactance effects in part depend on context, such that impositions on freedom are more readily accepted in certain contexts – for instance Public Service Announcements.
– than others. Presumably, in such contexts, the threat to freedom is partly attributed to “environmental reasons” (Worchel and Andreoli 1974), and as such produces less feelings of reactance.

The next section reviews and integrates the findings of the three studies, and considers their implications for both theory and practice.
7. General Discussion

The focus of this research was on persuasive communications which rather than enhancing, restrict consumers’ freedom. Specifically, the aim was to examine how threats to freedom, and the ensuing reactance effects they produce, relate to consumers’ perceived distance from those threats, i.e. the level of construal at which they process the freedom threatening message.

7.1. Main findings

Across three studies, the results showed an interactive relationship between threat to freedom and level of construal. This held when construal level was manipulated in the message framing (study one), when it was non-consciously primed prior to exposure to the target message (study two), as well when level of detail, rather than construal per se, was manipulated (study three). The interaction was reflected in the levels of reactance experienced by participants, as measured by the extent to which they were open to the message information.

Given the arousal which results from restrictions to freedom, and the concomitant motivation to restore one’s threatened autonomy, openness to message information should vary inversely to the intensity of that motivation – i.e. the greater (lower) the reactance experienced, the lower (greater) consumers’ receptivity to message information. Information receptivity constituted an important measure of reactance, both because it is an easy way to regain a sense of control, and due to its role as a precursor to other effects – such as attitudinal or behavioural changes - with regard to the message topic.
The results also displayed a consistent effect of level of construal on receptivity to information contained in the high threat message. Participants were more receptive to the information contained in a freedom restricting persuasive message when the message was framed at a high (vs. low) level of construal (study one), when they were primed with a high (vs. low) level of construal, and when they were directed to consider the message at low (vs. high) levels of detail. Hypotheses H1 and H3, which predicted this relationship between level of construal and threat to freedom and level of detail and threat to freedom, were thus supported by the results.

7.2. Process

The results of the three studies also shed light as to the process whereby construal level impacted on information receptivity, and were supportive of an explanation based on the level of message detail considered, and its associated use of persuasion knowledge. In study two participants perceived the high threat message as more neutral when they were primed with a high (vs. low) level of construal. This suggests a lower use of persuasion knowledge in that condition, since when such knowledge structures are used, message bias is more likely to be noticed and reported.

Study three further demonstrated that the pattern of interaction between threat to freedom and level of construal could be replicated with level of detail. Moreover, the impact of detail level on the high threat message paralleled that of construal - participants were more open to information when they considered the message in less (rather than more) detail. This was indicative that the differences in information receptivity between levels of construal stemmed from the greater number of details associated to with high (vs. low) level representations. Furthermore, there was also a
difference between levels of detail in the extent to which persuasion knowledge was used. Specifically, higher levels of detail (low construal) were associated with greater persuasion knowledge use and lower information receptivity; while persuasion knowledge use was lower at low levels of detail (high construal), when information receptivity was higher.

According to this argument, then, threats to freedom can serve as an important cue to persuasion knowledge use. They are not only susceptible to creating automatic reactance effects, but can intensify these feelings of resistance by activating persuasion knowledge, and leading consumers to consider the persuasion tactics used, the authors’ ulterior motives, and the overall appropriateness of the persuasive attempt. Low level representations incorporate more message details, such that the threat is more likely to be noticed, taken into consideration, and serve as a cue to persuasion knowledge use. At high levels of construal, in contrast, fewer message details are considered, including the threat to freedom, which then becomes less likely to trigger persuasion knowledge use.

Not only were the study results supportive of this proposition, but they failed to support alternative explanations based on feasibility-desirability considerations (study two), or the closeness and perceived personal relevance of the freedom threatening message (study one). Study two contained no feasibility-desirability issues, but still managed to replicate the same pattern of results; and in study one, participants’ perceptions of personal risk were taken subsequent to exposure to an alcohol related message. Contrary to what would have been expected if the effect of construal on information receptivity was bound with perceived relevance, participants perceived
themselves as more at risk of contracting an alcohol related illness at high (vs. low) levels of construal.

7.3. Theoretical Contributions

7.3.1. Reactance and Level of Construal

The results reported above help further our understanding of the constructs and theories under study, as well as the relationships between them. The pattern from the first two studies, in particular, points to a hitherto unexplored relationship between threats to freedom – and the reactance effects that result therefrom – and levels of construal. The nature of this interactive relationship allows for a better understanding of the conditions for the occurrence of reactance to freedom threatening persuasive messages, as well as the circumstances in which such effects might be reduced.

As long as the removal of a freedom does not appear irreversible, which with threats to attitudinal freedom is always the case, eliminating or threatening to eliminate a previously held freedom produces reactance, i.e. a motivation toward its restoration (Burgoon et al. 2002). The results of studies one and two, however, suggest that level of construal might constitute a boundary condition for the occurrence of these reactance effects: the motivation to restore a threatened freedom is greatly mitigated at high (vs. low) levels of construal – regardless of whether the message is framed in this way, or consumers have been primed to process at higher levels of representation.

A further implication of this finding may be the existence of culture-based differences in levels of reactance and information receptivity to high threat messages.
Asian cultures have been found to make greater use of low level representations of distant objects and events (Briley 2009; Nussbaum et al. 2003). This typically entails a more detailed consideration of the persuasive message, and according to the results presented, may make persuasion knowledge activation more likely – leading consumers’ to increase their defences and lower their openness to the message information.

Interestingly, this would suggest a pattern of greater reactance to high threat messages for Asian consumers; which is counter to the perception that reactance effects tend to be stronger in Western, more individualistic cultures, as well as for individuals with the “personality characteristics” associated with such cultures, “such as autonomy, dominance and independence” (Jonas et al. 2009, p. 1069). Imajo (2002), for instance, found that American students in Japan both perceived themselves as having more choices, and attributed greater personal importance to those choices than their Japanese counterparts.

Indeed, despite the importance attributed to freedom of choice in the Western world, it “is not a natural unit of behavior that has the same significance for everyone” (Markus and Schwartz 2010, p. 346). Rather, “the meaning and significance of choice varies with the cultural context and with what it means to be a normatively good actor in that context (Markus and Kitayama 2003; Snibbe and Markus 2005; Stephens, Markus, and Townsend 2007)” (ibid, p. 346). The same way notions of independence and self-determination are central to both the definition of self, and to the “systems of government, law, finance, and health care” in the US, “ideas of interdependence” are
“reflected and distributed by a variety of institutional practices and polices” in East Asia (Markus and Schwartz 2010, p. 346, emphasis added).

It would be of interest, therefore, to examine these cultural differences; not only with respect to experiences of reactance more generally, but in particular with respect to differences in the activation and use of persuasion knowledge in Western vs. Eastern cultures. It is plausible, for instance, that reactance effects might be stronger among Western (vs. Eastern) consumers at low levels of construal, because of the greater cultural emphasis on autonomy and self-determination (Markus and Schwartz 2010; Ryan and Deci 2000); but that at high levels of construal, the pattern will be reversed.

At a high level of construal, Western consumers are expected to take a less detailed view of the message, and persuasion knowledge is less likely to be activated. For consumers from Eastern cultures, in contrast, because they tend to use lower level representations even for distant objects or events, it is more likely that persuasion knowledge will be accessed and used.

Furthermore, there might be differences according to dimensions implicated in the restriction to freedom – whether they refer to purely individual freedoms, or by contrast, in-group freedoms. Jonas et al. (2009) note that “even if collectivists might be willing to give up individual freedoms, they might still be reluctant to give up freedoms of their in-group”; and to the extent that this is so, “culturally specific differences in the emergence of reactance should be observable” (Jonas et al. 2009, p. 1070).
A related topic of study might examine differences in the content, activation and use of persuasion knowledge across cultures. Friestad and Wright (1994) note that persuasion knowledge is bound to time and culture, such that “each generation's and culture's thinking may differ somewhat from that of past generations and other cultures” (p. 1). These differences in persuasion knowledge suggest there are likely to be differences across cultures in what is considered an appropriate or inappropriate persuasion tactic; and so also variations in what serves to activate this persuasion knowledge.

7.3.2. Construal Level and Persuasion Knowledge Use

The results also highlight the relationship between construal level and persuasion knowledge use, and the role of threats to freedom in activating such knowledge structures in particular. As noted in the literature review, persuasion knowledge is not typically top of mind: its use requires the availability of cognitive resources, the presence of a cue, or a prevention orientation (chronic or induced) in order to be activated (Campbell and Kirmani 2000; Ahluwalia and Burnkrant 2004; Kirmani and Zhu 2007). Going back even further, at the most basic level, a persuasion situation needs to be recognised as such in order for persuasion knowledge to become accessible.

Intention questions, for instance, influence behaviour by failing to be recognised as persuasion attempts - persuasion knowledge remains unused, and a mere measurement effect results (Williams et al. 2004). Indeed, for this effect to be attenuated it must either be explained to consumers, in order that they may recognise the intention questions as persuasion attempts; or their persuasion knowledge must
be triggered, for instance, by making salient ulterior motives as a cue to persuasion knowledge use.

The present research suggests another route to increasing persuasion knowledge accessibility, in the form of lower level representations of the persuasive message. At low levels of construal, more message details are considered, and this greater scrutiny increases the likelihood that a particular message feature may serve as a cue to persuasion knowledge use. In the current research, this feature was the restriction imposed on consumers’ freedom in the high threat conditions. It seems plausible, however, that a more detailed message consideration, or processing at low levels of construal, might produce the same effect even in the absence of such a threat. For instance, by shifting attention to stylistic features of the message, the tone used or even the ulterior motives guiding it, provided these are salient enough to serve as a cue. Ironically, there appears to be a deliberate intention in designing persuasive messages, to seek ways to encourage more detailed message consideration – which may actually hurt persuasiveness.

The role of threat to freedom in activating persuasion knowledge use is also noteworthy. Restrictions on freedom are typically analysed from a reactance perspective, and not necessarily in terms of their related impact on persuasion knowledge use. While persuasion knowledge use can produce reactance, and in the current studies was indeed associated with lower levels of information receptivity, it is possible that it may have other, more positive effects as well.

Russell (2002), for instance, found that the use of incongruent modality-plot product placements, although reducing persuasion (because they were perceived as
unusual and so led consumers to raise their guard), improved memory for the placements at hand. It is possible that the same may occur with threat to freedom; i.e., despite their ability to produce reactance effect, as reflected in levels of information receptivity for instance, in particular at low levels of construal, threats to freedom may also increase memory for particular persuasive communication. If this is the case, the extent to which restrictions on freedom are imposed in persuasive messages may need to be adapted to the objectives at hand – namely, whether the aim is for the message to be attended to, to achieve some form of attitudinal or behavioural change, or merely for it to be remembered.

7.3.3. Construal Level and Level of Detail

Low level representations are by definition more detailed, inclusive of peripheral characteristics, specific and exclusive; while low level of construal representations tend to be de-contextualised and schematic, based on central features and so considering fewer details. In study three, this distinction was used to show that the same pattern of results could therefore be obtained by manipulating the level of detail at which participants considered the message, as when they were primed with different levels of construal.

This suggests an additional manner in which level of construal can be manipulated – by altering the level of time pressure participants perceive in a given situation, and so the extent to which they consider the details associated with the object or event at hand. It would be of interest to examine whether this manipulation works in contexts other than persuasive messages; and whether the effects extend to other “construal
mediated consequences of distance”, such as those pertaining to predictions or judgments (Trope and Liberman 2010).

7.3.4. Construal Effects

The results of this research also appear to have implications from a construal level point of view, in that the impact of level of construal on openness to the message information was partly dependent on whether or not a threat to freedom was present. Construal level significantly influenced reactions to the high threat, but not to the low threat message; and as a result, there were no main effects of construal level on information receptivity in any of the three studies presented.

This is somewhat surprising, given the well documented “shifts in representation, prediction, evaluation, and behaviour” (Trope et al. 2007, p. 84) which occur between levels of construal. The fact that these only occurred in the high threat condition suggests that a change in a single feature of an object or event can be sufficient to alter the way in which construal level impacts on representations, evaluations and reactions to that object or event. It would be of interest, therefore, to examine what other kinds of features might produce these shifts in the impact of construal level. On the basis of the current results, it would appear that they would have to be consequential features, able to produce a competing effects, as is the case with threats to freedom and resulting reactance.

Although the effect of construal was not significant for the low threat message, a pattern did emerge for this condition. In all three studies, but more markedly so for the first and third, there was greater receptivity to the low threat message information
at low (vs. high) levels of construal (studies one and two), and at high (vs. low) levels of
detail (study three). This pattern is consistent with research by Chandran and Menon
(2004), who found a lower positivity bias and higher perceptions of risk when health
risk messages were framed at low vs. high levels of construal, due to the greater
concreteness and perceived as psychologically closeness of the messages at low levels
of construal. In the Chandran and Menon (2004) studies, much as in the low threat
condition of study one, the messages contained a threat to self-esteem, but not to
freedom of action or choice.

It is not clear, however, why these effects failed to reach significance in the studies
reported here, and in particular with respect to the measure of perceptions of
personal risk of contracting an alcohol related illness of study one. It is possible, for
instance, that this effect depends on the strength of the arguments used, and that had
they been stronger, the impact of construal level on information receptivity or
perceptions of risk would have reached significance. Indeed, in research by Fujita et al.
(2008) the impact of construal level on persuasion – namely, the higher levels of
persuasion found when arguments matched participants’ psychological distance from
the message – was dependent on both the availability of cognitive resources, and the
presence of strong positive arguments.

7.4. Practical Implications

The results presented are also of consequence on a practical level, for persuasion
situations in general, and those in which threats to freedom are more typical or even
inevitable, in particular. For instance, Public Service Announcement contexts in which
the latitude for two-sided, non-directive messages is often very limited. Concern has
been expressed with regard to the vast amount of money spent on such communications, and in particular, with regard to whether or not such investment results in the intended results. Burgoon et al. (2002) note the possibility that such communications may not only be failing to produce the desired effects, at worst they might create changes in attitudes and behaviours in the direction opposite to that intended.

The present studies, however, indicate that while concern over potential negative effects of threats to freedom on persuasion needs to be held, merely altering the framing of the message, or otherwise shifting the level of construal at which consumers process the persuasive message, can ameliorate reactance effects and increase openness to information in particular. This is important, because such openness is one necessary pre-requisite to subsequent changes with regard to message topic, be they in attitudes and/or in behaviour (Krugman et al. 1999)

The role of threats to freedom in activating persuasion knowledge use is also worth noting, as an additional point to consider in crafting persuasive messages. Given that threats to freedom can apparently serve as a cue to persuasion knowledge use, such characteristics would best be used in conjunction with high levels of construal, a heavy imposition on cognitive resources, or a promotion orientation, for instance. The aim would be to lower the probability that the threat might indeed trigger persuasion knowledge.

Similar care must be taken with regard to other message features, and the possibility that they may unintentionally trigger persuasion knowledge use, as well. The more unusual a characteristic is perceived to be in a given persuasion context, the
more it will fall outside of consumers’ routines, making persuasive intent more salient, and persuasion knowledge use more likely (Briley et al. 2011). Indeed, this can explain the differences in the intensity of threat effects uncovered between the three studies.

In particular, it seems plausible that the lower intensity of reactance in the studies which used Public Service Announcements (studies one and three), vis a vis the one which used an ostensible newspaper article (study two), is connected to the lower level of disruption caused by a threat to freedom in the former (PSA) rather than latter (newspaper) message format. This argument is also consistent with the notion of “attributing causality” as a means of mitigating reactance effects. When a threat to freedom can be attributed to contextual factors outside of the threateners’ control, it tends to elicit less intense feelings of reactance, or even fail to produce them altogether (Worchel and Andreoli 1974). If this is indeed the case for Public Service Announcements, it may suggest that some of the concern over the use of threats to freedom in such contexts can be relaxed.

Another issue which needs to be considered is whether different levels of construal might be more appropriate at different stages of the behavioural change process. The studies described here focused on information receptivity, and for this stage, processing at a high level of construal (or low level of detail) was clearly more beneficial. Furthermore, without this initial openness, consumers cannot move onto the next stages. When they have already done so, however, and in particular where the aim is to produce a change in behaviours, it is possible that low level construals might be more effective.
This is consistent with the notion of “implementation intentions”, low level representations which “specify the how, when and where of responses leading to goal attainment, and which have been shown to promote the achievement of the goal with regard to which an intention was created (Gollwitzer 1999, p. 494). It may be then, that although a high level of construal promotes greater openness to information in high threat messages, it will not necessarily lead to greater levels of action or change, when this is the specific aim of the persuasive message. Message framing therefore needs to be adapted to the persuasion objective held, as well as the stage in change at which target consumers find themselves.

A related consideration is that noted above with regard to non-persuasion related objectives, such as for instance, increased memory for a message. While persuasion knowledge activating characteristics such as a threat to freedom may not be beneficial in terms of information receptivity, it is possible that the disruption caused by such features, has a positive effect on consumers’ ability to remember the message.

The next chapter draws the major conclusions from the study, as well as pointing to its limitations and avenues for further research.
8. Conclusions, Limitations and Further Research

This research brings together and contributes to existing research on reactance, construal level theory and the persuasion knowledge model. The focus has been on persuasive messages which constrain consumers’ freedom of choice. This is a topical issue - Markus and Schwartz (2010) argue that “in the past few decades, freedom has come to mean, almost exclusively, freedom of choice” (p. 345). And while the authors question the validity of the longstanding perception in Western cultures of a link between choice and well-being, the fact remains that in Western contexts this association still holds, is culturally engrained and taught from an early age (e.g. Markus and Schwartz 2010; Sherman et al. 2004). Thus, when a freedom is restricted, reactance ensues.

This was to an extent patent in the current research, in those conditions in which participants reduced their openness to the message information as a means of restoring their threatened freedom. More importantly, however, the studies presented indicate the existence of a two way interaction between construal level and threats to freedom. In addition, they show a significant impact of level of construal on receptivity to high threat message information - the negative effects of restrictions on freedom on openness can apparently be ameliorated by the level of construal at which the message is framed or being considered.

As noted above, these findings have both theoretical and practical implications. They add to our understanding of these constructs, but also offer practical considerations of the formulation of freedom limiting persuasive communications, such as public service announcements. Study one, in particular, showed that where
health communications are at stake, the impact of level of construal appears to be not only on receptivity to the information, but also on consumers’ perceptions of their personal risk of experiencing the negative consequences of a particular behaviour. Participants in study one considered themselves at a lower risk of contracting an alcohol related illness when the (high threat) alcohol message they read (proposing moderation in consumption) was framed at high (vs. low) levels of construal.

Given the practical relevance of the relationship between construal and threat, it would be of interest to take investigations outside of laboratory, and examine reactions in field settings – for instance, to actual public service communications. Although such research is unable to achieve the same level of control across conditions as laboratory experiments, it can be an important complement to such research, providing new insights and higher levels of ecological validity.

Also of practical relevance is the indication in the data that the impact of construal on information receptivity was due to the level of detail considered at high vs. low levels of representation. Indeed, study three was able to replicate the same pattern of results as the first two studies by influencing the degree of thoroughness and detail with which the message was considered. Receptivity to the message information was greater at low (vs. high) levels of detail.

Thus, while it might intuitively seem preferable that consumers consider persuasive messages in greater detail, for messages which restrict freedom, such detail may actually be detrimental to persuasion. Indeed, past research has noted such “negative outcomes associated with increases in processing attention” – for instance, irritation, counter-arguing or as noted before, diminished persuasion (Campbell 1995,
The results of the current research suggest that greater levels of openness to the (high threat) message information might be obtained through the use of high level of construal representations, creating a high perceived distance from the issue at hand, or a cursory examination of the persuasive message.

While this is the case for information receptivity, however, it is not clear whether it will also be the case with respect to attitudes, or crucially, behaviour. Information receptivity is a crucial first step, without which changes in attitudes or behaviours are unlikely to occur; however, it is only one step, and behavioural changes in particular are the result of a process and many different influencing factors (Krugman et al. 1999). Thus, it may be that different levels of representation (or detail) are better suited for different communication aims.

For example, a high level of construal may assist in creating an initial openness to message content, but where actual change in one’s actions or behaviours is required, it may be that low level construals prove more effective. This would be consistent with the concept of implementation intentions – the notion that elaborating on the specific steps required to achieve the desired goal can be an effective way of creating compliance.

This points to both a limitation of the current research and an avenue for further research. The present studies focused only on openness, and did not examine other forms of restoration bound with changes in attitudes and/or behaviours. It would be of interest, then, to examine the impact of different levels of construal, distance or detail according to the specific goals of the message, using measures relating to attitudes towards the behaviours in question, affective responses to the message and its
proposed course of action, as well as intentions and actual behaviours. For instance, a
design similar to study three could be used, but with additional measures of
behaviour; such that after being presented with a message relating to the potential
negative consequences of excessive coffee consumption, participants are given the
opportunity to choose between different hot drinks - coffee included. The choice of
coffee (vs. other hot drinks containing less or no caffeine) and the quantities
consumed would provide a measure of reactance; and following the results of the
current studies, the expectation would be that participants would choose to consume
more coffee at low (vs. high) levels of construal in the high threat condition.

From a construal level theory perspective, the most interesting result of this
research is the one-sided impact of construal level, which was significant for the high
(but not the low) threat condition. Indeed, the pattern of results for the measures of
information receptivity, perceptions of personal risk, and perceptions of message
neutrality were consistently different for the two threat conditions. For the high threat
messages, the pattern was of greater information receptivity, perceptions of message
neutrality, and perceptions of personal risk at high (vs. low) levels. For low threat
messages, there was no significant impact of level of construal (despite an apparent
pattern in the opposite direction – i.e. of greater information receptivity at low vs. high
levels of construal).

Thus, construal level effects appear to be affected by, and vary on the basis of
other important message features, in particular those that can produce arousal or a
motivation to pursue specific goals – in the case of the present study, the restoration
of freedom. It would be of interest to see if other message or object features which
produce such consequences similarly result in differences in the impact of construal level. For instance, would the same pattern emerge for fear appeals, or highly one-sided messages, but without a threat to freedom? Future research may want to examine whether openness to, and attitudes toward, such communications will vary between levels of construal. For instance, will information receptivity toward fear appeals be greater at high (vs. low) levels of construal when the fear appeal is strong, but more positive at low (vs. high) levels of construal when a weaker fear appeal is used? Similarly, it may be of interest to examine if consumers will react differently to situations of cognitive dissonance according to their perceived distance from the object or event causing that dissonance, and whether the impact of distance or construal level will be different for different levels of dissonance.

Another relationship worth noting is that between level of construal or detail and persuasion knowledge use. The results presented point to an increased use of persuasion knowledge when messages containing a cue to such contexts are examined at high (vs. low) levels of detail. While this is intuitive, it might be of interest to investigate what other elements might be able to activate persuasion knowledge when consumers are processing at higher levels of detail, and how strong such cues have to be.

The low threat to freedom message in study three, although not imposing a restriction on freedom of choice, still contained a threat to self-regard, because it was a health risk message. However, this was not alone sufficient to trigger greater persuasion knowledge use when the message was scrutinised in greater (vs. less)
detail. It seems likely that other message features, however, may do so. Features such as message tone, level of bias, or the fairness of the message, for instance.

It would also be of interest to examine whether a low level of detail (or high construal) would be sufficient to mitigate the impact of known persuasion knowledge triggers, such as ulterior motives or a prevention orientation. For instance, using the scenario from Campbell and Kirmani (2000), would participants primed with a high level of construal make more positive evaluations of the salesperson, despite salient ulterior motives, than those primed with a low level of construal? The results of the current study suggest that they would. On the other hand, if consumers’ cognitive resources are limited, because a load is imposed, even a low construal - high detailed consideration may fail to trigger persuasion knowledge use.

These issues are important, not only in terms of overcoming resistance to important messages, such as health communications or other freedom restricting persuasive messages; but in terms of persuasion knowledge use more generally. Such knowledge structures can be an important means for consumers to protect themselves against unfair or undue persuasion attempts. Goldberg, Niedermeier, Bechtel, and Gorn (2006), for instance, show the impact of persuasion knowledge in helping adolescents protect themselves against alcohol advertising.

As promotions branch out from traditional advertising to more diverse and subtle promotional forms, such as product placements or sponsors, and television series and movies become an “influential source through which consumers acquire knowledge and learn social behaviours” (Russell and Russell 2008, p. 459), so it becomes increasingly important that consumers learn to recognise these situations as
persuasion events and use persuasion knowledge to respond according to a manner congruent with their goals. In terms of research, and especially from a social marketing perspective, this suggests a pressing need to increase our understanding of persuasion knowledge, and the conditions for its activation and use with respect to these different forms of influence in particular.

Finally, the studies presented also raise questions with regard to the impact of context on the experience of reactance in the face of threats to freedom. In the current research, the effects of threat to freedom appeared considerably stronger in a newspaper context, than a Public Service Announcement one. The results were suggestive of context effects, but it would be of interest to examine the issue more systematically, with respect to message topic, type, the medium of communication, the expectations held toward these features, and the extent to which the threat to freedom can be attributed to environmental constraints. Future research may well find these characteristics to constitute further boundary conditions to the experience of reactance to persuasive communications.

It would also be of interest, however, to distinguish these effects from a mere lack of interest or desensitisation to highly directive and freedom constraining Public Service Announcements. It could be that consumers have learned, or are learning to, “block out” threats to freedom, as a result of repeated exposure. From a practitioner point of view, this distinction would be of particular interest, because it would mark the difference between a “permit” to continue the use of directive messages, at least in Public Service Announcement contexts, and a clear indication that such an approach is no longer being heeded to by consumers.
9. References


Forster, Jens, Ronald S. Friedman, and Nira Liberman. 2004. “Temporal Construal Effects on Abstract and Concrete Thinking: Consequences for Insight and


10. Appendices

Appendix 1 – Study One ANOVA for Receptivity to Message Information

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>4,031(^a)</td>
<td>3</td>
<td>1,344</td>
<td>2.487</td>
<td>.066</td>
</tr>
<tr>
<td>Intercept</td>
<td>1,532</td>
<td>1</td>
<td>1,532</td>
<td>3.335E3</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>.120</td>
<td>1</td>
<td>.120</td>
<td>.221</td>
<td>.639</td>
</tr>
<tr>
<td>Construal</td>
<td>.098</td>
<td>1</td>
<td>.098</td>
<td>.181</td>
<td>.672</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>3,748</td>
<td>1</td>
<td>3,748</td>
<td>6.938</td>
<td>.010</td>
</tr>
<tr>
<td>Error</td>
<td>47,001</td>
<td>87</td>
<td>.540</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,674</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>51,033</td>
<td>90</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .079 (Adjusted R Squared = .047)

Table 10.1 – Study One Table of ANOVA Results for Receptivity to Message Information
Appendix 2 – Study One ANOVA for Perception of Alcohol Risk

Tests of Between-Subjects Effects

Dependent Variable: Likelihood of Contracting an Alcohol Related Illness

<table>
<thead>
<tr>
<th>Source</th>
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<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
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<td>3</td>
<td>2,166</td>
<td>1,505</td>
<td>.219</td>
</tr>
<tr>
<td>Intercept</td>
<td>407,081</td>
<td>1</td>
<td>407,081</td>
<td>282,936</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>.614</td>
<td>1</td>
<td>.614</td>
<td>.872</td>
<td>.353</td>
</tr>
<tr>
<td>Construal</td>
<td>1,255</td>
<td>1</td>
<td>1,255</td>
<td>.872</td>
<td>.353</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>4,479</td>
<td>1</td>
<td>4,479</td>
<td>3,113</td>
<td>.081</td>
</tr>
<tr>
<td>Error</td>
<td>125,174</td>
<td>87</td>
<td>1,439</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>541,000</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>131,670</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .049 (Adjusted R Squared = .017)

*Table 10.2 – Study One Table of ANOVA Results for Perceptions of Personal Risk of Contracting an Alcohol Related Illness*
## Tests of Between-Subjects Effects

Dependent Variable: Outcome Thoughts

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>3,084^a</td>
<td>3</td>
<td>1,028</td>
<td>.952</td>
<td>.419</td>
</tr>
<tr>
<td>Intercept</td>
<td>1714,055</td>
<td>1</td>
<td>1714,055</td>
<td>1587,278</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>1,124</td>
<td>1</td>
<td>1,124</td>
<td>115</td>
<td>.735</td>
</tr>
<tr>
<td>Construal</td>
<td>1,441</td>
<td>1</td>
<td>1,441</td>
<td>1,335</td>
<td>.251</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>1,336</td>
<td>1</td>
<td>1,336</td>
<td>1,237</td>
<td>.269</td>
</tr>
<tr>
<td>Error</td>
<td>91,789</td>
<td>85</td>
<td>1,080</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1810,880</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .033 (Adjusted R Squared = -.002)

*Table 10.3 – Study One Table of ANOVA Results for Outcome Thoughts*
Appendix 4 - Study One ANOVA for Process Thoughts

Tests of Between-Subjects Effects

Dependent Variable: Process Thoughts

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>5,454a</td>
<td>3</td>
<td>1,818</td>
<td>.840</td>
<td>.476</td>
</tr>
<tr>
<td>Intercept</td>
<td>1020,135</td>
<td>1</td>
<td>1020,135</td>
<td>471,255</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>2,393</td>
<td>1</td>
<td>2,393</td>
<td>1,105</td>
<td>.296</td>
</tr>
<tr>
<td>Construal</td>
<td>1,557</td>
<td>1</td>
<td>1,557</td>
<td>.719</td>
<td>.399</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>1,673</td>
<td>1</td>
<td>1,673</td>
<td>.773</td>
<td>.382</td>
</tr>
<tr>
<td>Error</td>
<td>184,001</td>
<td>85</td>
<td>2,165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1207,444</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>189,456</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .029 (Adjusted R Squared = -.005)

Table 10.4 – Study One Table of ANOVA Results for Process Thoughts
Appendix 5 - Study Two ANOVA for Receptivity to Message Information

Tests of Between-Subjects Effects

Dependent Variable: Receptivity to Message Information

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>12,688&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3</td>
<td>4,229</td>
<td>5,663</td>
<td>.002</td>
</tr>
<tr>
<td>Intercept</td>
<td>849,906</td>
<td>1</td>
<td>849,906</td>
<td>1,138E3</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>.925</td>
<td>1</td>
<td>.925</td>
<td>1,238</td>
<td>.270</td>
</tr>
<tr>
<td>Construal</td>
<td>4,369</td>
<td>1</td>
<td>4,369</td>
<td>5,850</td>
<td>.019</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>5,320</td>
<td>1</td>
<td>5,320</td>
<td>7,123</td>
<td>.010</td>
</tr>
<tr>
<td>Error</td>
<td>44,066</td>
<td>59</td>
<td>.747</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>939,320</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>56,754</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .224 (Adjusted R Squared = .184)

Table 10.5 – Study Two Table of ANOVA Results for Receptivity to Message Information
### Appendix 6 - Study Two ANOVA for Message Neutrality

#### Tests of Between-Subjects Effects

Dependent Variable: Message Neutrality

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>46.059 (^a)</td>
<td>3</td>
<td>15.353</td>
<td>11.050</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>897.005</td>
<td>1</td>
<td>897.005</td>
<td>645.591</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>1.032</td>
<td>1</td>
<td>1.032</td>
<td>.743</td>
<td>.392</td>
</tr>
<tr>
<td>Construal</td>
<td>33.914</td>
<td>1</td>
<td>33.914</td>
<td>24.409</td>
<td>.000</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>4.546</td>
<td>1</td>
<td>4.546</td>
<td>3.272</td>
<td>.076</td>
</tr>
<tr>
<td>Error</td>
<td>81.977</td>
<td>59</td>
<td>1.389</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1078.222</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>128.035</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .360 (Adjusted R Squared = .327)

**Table 10.6 – Study Two Table of ANOVA Results for Perceptions of Message Neutrality**
Appendix 7 - Study Three ANOVA for Receptivity to Message Information

Tests of Between-Subjects Effects

Dependent Variable: Receptivity to Message Information

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>8,479&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3</td>
<td>2,826</td>
<td>2,039</td>
<td>.118</td>
</tr>
<tr>
<td>Intercept</td>
<td>990,988</td>
<td>1</td>
<td>990,988</td>
<td>714,963</td>
<td>.000</td>
</tr>
<tr>
<td>Threat</td>
<td>130</td>
<td>1</td>
<td>130</td>
<td>5,523</td>
<td>.022</td>
</tr>
<tr>
<td>Construal</td>
<td>130</td>
<td>1</td>
<td>130</td>
<td>5,523</td>
<td>.022</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>7,655</td>
<td>1</td>
<td>7,655</td>
<td>5,523</td>
<td>.022</td>
</tr>
<tr>
<td>Error</td>
<td>80,392</td>
<td>58</td>
<td>1,386</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
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<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>88,871</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .095 (Adjusted R Squared = .049)

Table 10.7 – Study Three Table of ANOVA Results for Receptivity to Message Information
Appendix 8 - Study Three ANOVA for Persuasion Knowledge Use

Tests of Between-Subjects Effects

Dependent Variable: Persuasion Knowledge Use

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
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<td>,565</td>
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</tr>
<tr>
<td>Threat</td>
<td>,012</td>
<td>1</td>
<td>,012</td>
<td>,028</td>
<td>,868</td>
</tr>
<tr>
<td>Construal</td>
<td>,289</td>
<td>1</td>
<td>,289</td>
<td>,642</td>
<td>,426</td>
</tr>
<tr>
<td>Threat * Construal</td>
<td>1,221</td>
<td>1</td>
<td>1,221</td>
<td>2,717</td>
<td>,105</td>
</tr>
<tr>
<td>Error</td>
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<td>58</td>
<td>,449</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td>Corrected Total</td>
<td>27,763</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = ,061 (Adjusted R Squared = ,012)

Table 10.8 - Table of ANOVA Results for Persuasion Knowledge Use
Appendix 9 – Study One Main Questionnaire (First Task) (High Threat – High Construal Condition)

Note: This task was actually carried out on the computer, in excel form. Participants pressed “next” at the end of each page to move to the next.

Communication Styles Study

Thank you for your participation!

We are interested in people’s perceptions and evaluations of consumer communications. We have chosen a series of different communications on a wide range of topics and using a variety of styles to be analysed. One of these has been randomly assigned to you.

We ask that you read the communication carefully, and then proceed to answer the questions accurately as you can. There are no right or wrong answers - we simply want to know your thoughts and feelings on the message.

STUDENT IDENTIFICATION NUMBER: ______________________________
There are 40 150 alcohol related hospitalisations every year.

Alcohol is a drug that can lead to intoxication and dependence; it can also impair motor skills and judgement, cause illness and death and have other harmful effects on our social, economic and living environments.

A person does not have to be drunk, or drink heavily before they become ill, are injured or die from an illness or injury caused by alcohol.

The cost to the community of alcohol related social problems is around $7.6 billion each year.

There are 40 150 alcohol related hospitalisations every year.

There are 1 400 alcohol related deaths every year.

Every year, alcohol is causing harms such as sleep disorders, violence, stroke, liver disease and stroke in significant numbers of people.

Young adults are more likely than older people to experience alcohol-related harm. Young adults have the highest consumption rates and the highest risk of alcohol-related injury, including road trauma, violence, sexual coercion, falls, accidental death and suicide.

As any sensible person can see, there is really no choice when it comes to university students drinking: you simply have to moderate your drinking.

Remember: you must limit your drinking! No more than 4 standard drinks a day on average for men, and no more than 2 standard drinks a day on average for women.
1. To what extent do you agree with the following statements regarding the message you just read (1 = not at all; 7 = completely agree):

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was informative</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was clear and easy to understand</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was accurate</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was unbelievable</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was precise</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was useful</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was inexact</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was instructive</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was credible</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was trustworthy</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

2. To what extent do you think the following characteristics describe the source of the message you just read (1 = not at all; 7 = completely agree).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Unqualified</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Honest</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Sincere</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Selfish</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Unintelligent</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Broad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Virtuous</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

192
3. To what extent did you experience the following emotions while you were reading the message (1 = not at all; 7 = a lot):

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleased</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annoyed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. When you read the message, did you think about...

<table>
<thead>
<tr>
<th>Thought about it a lot</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being healthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding alcohol related health problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps you would need to take in order to reduce your drinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your life goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The intrinsic importance of being healthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much you will drink next time you go out with your friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding alcohol related accidents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How others will react if you change your drinking habits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. To what extent do you agree with the following statements regarding the message you just read (1 = not at all; 7 = completely agree):
<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was dogmatic</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was fun</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to make a decision for me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to manipulate me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was interesting and novel</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to keep me engaged</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to pressure me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message mentioned the number of alcohol related problems that occur annually</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message mentioned the number of alcohol related problems that occur daily</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>According to the message, alcohol related problems are a serious issue for young adults</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

6. Please list the thoughts and feelings you experienced when reading the message:

1. 

2. 

3. 

4.
7. Please answer the following questions:

   a. Did you find the message easy to understand? 
      Yes [ ] No [ ]

   b. Did you find the message realistic? 
      Yes [ ] No [ ]

   c. Were there any questions you found difficult to understand? 
      Yes [ ] No [ ]

   d. Were there any questions you found difficult to answer? 
      Yes [ ] No [ ]

   e. What do you think is the purpose of this study?

      [Blank space for answer]

Thank you
Appendix 10 – Study One - Health and Lifestyle Questionnaire (Second Task)

**Health and Lifestyle questionnaire**

We are currently conducting a survey of university students’ health and lifestyles. Below are a series of questions on your lifestyle, with regard to eating and exercise behaviours. Please take a moment to complete the questionnaire as accurately as you can. The questionnaire takes around 15 minutes to fill out, and your answers will remain anonymous.

Thank you for your cooperation.

**STUDENT ID NO:** ________________________________

1. On a scale of 1 to 10, where 1 = not at all healthy and 10 = very healthy, how would you describe your:

<table>
<thead>
<tr>
<th></th>
<th>Not at all healthy</th>
<th>Very healthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>General level of health</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>General lifestyle</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Eating habits</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Exercise habits</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
<tr>
<td>Drinking habits</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

2. Current recommendations are that one should eat 2 serves of fruit and 5 of vegetables a day.
   a) In a typical week, on how many days do you usually do this? _________________
   b) In the past week specifically, on how many days did you do this? _________________

3. How often do you eat “junk food” (hamburgers, pizza, etc.)

   Never
   3-4 times a year
   3-4 times a month
4. How often do you exercise?

Never
A few times a month
Once a week
2-3 times a week
3+ times a week

5. In the last week specifically, how many days did you exercise? ___________________

6. What kind of exercise do you do?

______________________________________________________

7. How much do you intend to exercise in the coming week? ___________________

8. Have you ever smoked?
Yes [ ] No [ ]
(if no, please go to question 10)

For how long did you smoke? ________________________________

9. Do you currently smoke? ________________________________
On average, how many cigarettes a day? _______________________
Are you trying to quit? ________________________________
How much do you intend to smoke in the coming week? ______________________
10. How often do you drink alcohol? (please check a box)

- Never
- At least once a year
- At least once a month,
- At least once a week
- Almost every day

11. In the past week specifically, how many:
   a) Beers did you have? ____________
   b) Glasses of wine did you have? ____________
   c) Spirits did you have? ____________

Was this a typical week for you in terms of alcohol consumption?

- Yes
- No

12. Estimate the total number of drinks you intend to have in the coming week?

______________________________________________________________________

13. Estimate the total number of drinks you intend to have on your next night out?

______________________________________________________________________

14. On a scale of 1-7 (1= not at all likely; 7= very likely), how likely do you think you are to:

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract an alcohol-related illness</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Suffer an alcohol related injury</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Suffer an alcohol related accident</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
15. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 3 = neither agree nor disagree; 5 = strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations trigger a sense of resistance in me</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I find contradicting others stimulating</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>When something is prohibited, I usually think “that’s exactly what I am going to do”</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I consider advice from others to be an intrusion</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I become frustrated when I am unable to make free and independent decisions</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>It irritates me when someone points out things which are obvious to me</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I become angry when my freedom of choice is restricted</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advice and recommendations usually induce me to do just the opposite</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I resist the attempts of others to influence me</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>It makes me angry when another person is held up as a role model for me to follow</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>When someone forces me to do something, I feel like doing the opposite</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

16. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 3 = neither agree nor disagree; 5 = strongly agree)*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know when an offer is “too good to be true”</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I can tell when an offer has strings attached</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I have no trouble understanding the sales tactics used by salespeople</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I know when a marketer is pressuring me to buy</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I can see through sales gimmicks used to get consumers to buy</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
17. Please indicate:

a) your age: _________________

b) sex: _________________

c) nationality: _____________________________

d) cultural/ethnic background: _____________________

e) religion: _______________________________

Thank you for your participation.
Appendix 11 – Study Two - Construal Level Priming Exercises (First Task)

*High Level of Construal Prime:*

**Creative Expression Exercise**

*We are interested to see how people categorise objects. For this purpose, you will be given a list of 40 items and asked to indicate a category in which they might belong. For each word, you will be asked what it is an example of. E.g.: “Singer is an example of what?” – artist. You may use the same category for more than one item.*

1. KING is an example of what?
   __________________________________________________________

2. PASTA is an example of what?
   __________________________________________________________

3. BAG is an example of what?
   __________________________________________________________

4. SOAP is an example of what?
   __________________________________________________________

5. PAINTER is an example of what?
   __________________________________________________________

6. SOUP is an example of what?
   __________________________________________________________

7. SPOON is an example of what?
   __________________________________________________________

8. WATER is an example of what?
   __________________________________________________________

9. NECKLACE is an example of what?
   __________________________________________________________

10. PEN is an example of what?
    __________________________________________________________

11. SADNESS is an example of what?
    __________________________________________________________

12. MINISTER is an example of what?
    __________________________________________________________

13. CAMERA is an example of what?
    __________________________________________________________

14. JOY is an example of what?
    __________________________________________________________

15. NOTEBOOK is an example of what?
    __________________________________________________________
16. FRUIT is an example of what?
17. SHOP is an example of what?
18. BLOG is an example of what?
19. PAINTING is an example of what?
20. RUNNING SHOES are an example of what?
21. FLOWER is an example of what?
22. CAR is an example of what?
23. SCHOOL is an example of what?
24. BRIDGE is an example of what?
25. CHURCH is an example of what?
26. TELEPHONE is an example of what?
27. BLUE is an example of what?
28. RUNNING is an example of what?
29. FISH is an example of what?
30. NEWSPAPER is an example of what?
31. DOCTOR is an example of what?
32. FILM is an example of what?
33. DOLL is an example of what?
34. EXERCISE is an example of what?
35. FATHER is an example of what?
36. DEMOCRACY is an example of what?
37. COMEDY is an example of what?
38. CHAIR is an example of what?
_________________________________________________________________

39. GAMBLING is an example of what?
_________________________________________________________________

40. PRESIDENT is an example of what?
_________________________________________________________________

Low Level of Construal Prime:

Creative Expression Exercise

We are interested to see how people categorise objects. For this purpose, you will be given a list of 40 items and asked to indicate an example of an item which belongs to that group. For each word, you will be asked for an example of it. E.g.: “An example of singer is what?” – Pavarotti.

1. An example of KING is what?
_________________________________________________________________

2. An example of PASTA is what?
_________________________________________________________________

3. An example of BAG is what?
_________________________________________________________________

4. An example of SOAP is what?
_________________________________________________________________

5. An example of PAINTER is what?
_________________________________________________________________

6. An example of SOUP is what?
_________________________________________________________________

7. An example of SPOON is what?
_________________________________________________________________

8. An example of WATER is what?
_________________________________________________________________

9. An example of NECKLACE is what?
_________________________________________________________________

10. An example of PEN is what?
_________________________________________________________________

11. An example of SADNESS is what?
_________________________________________________________________

12. An example of MINISTER is what?
_________________________________________________________________

203
13. An example of CAMERA is what?
_____________________________________________________________

14. An example of JOY is what?
________________________________________________________________

15. An example of NOTEBOOK is what?
___________________________________________________________

16. An example of FRUIT is what?
________________________________________________________________

17. An example of SHOP is what?
_____________________________________________________________

18. An example of BLOG is what?
________________________________________________________________

19. An example of PAINTING is what?
_____________________________________________________________

20. An example of RUNNING SHOES is what?
________________________________________________________________

21. An example of FLOWER is what?
________________________________________________________________

22. An example of CAR is what?
________________________________________________________________

23. An example of SCHOOL is what?
________________________________________________________________

24. An example of BRIDGE is what?
________________________________________________________________

25. An example of CHURCH is what?
________________________________________________________________

26. An example of TELEPHONE is what?
________________________________________________________________

27. An example of BLUE is what?
________________________________________________________________

28. An example of RUNNING is what?
________________________________________________________________

29. An example of FISH is what?
________________________________________________________________

30. An example of NEWSPAPER is what?
________________________________________________________________

31. An example of DOCTOR is what?
________________________________________________________________

32. An example of FILM is what?
________________________________________________________________

33. An example of DOLL is what?
________________________________________________________________

34. An example of EXERCISE is what?
________________________________________________________________
35. An example of FATHER is what?
______________________________________________________________
36. An example of DEMOCRACY is what?
______________________________________________________________
37. An example of COMEDY is what?
______________________________________________________________
38. An example of CHAIR is what?
______________________________________________________________
39. An example of GAMBLING is what?
______________________________________________________________
40. An example of PRESIDENT is what?
______________________________________________________________
Impression Formation Study

Thank you for your participation!

We are interested in how people form impressions of candidates in non-political electoral settings.

It is election time again, and as a Union member, you are asked to vote for the Student Union Board Director. This is a particularly consequential election, because a number of changes are being proposed, to both the University fee system and its examination system. It is expected that the Union will have an important role in deciding which shape these changes take. There are only two contenders for the position: James Smith and Richard Jones. The race is tight and every vote matters.

STUDENT IDENTIFICATION NUMBER: ______________________________
The following text is an extract from a review of the two main candidates by a non-partisan journalist writing for a local newspaper.

*Please read the article as carefully as you can, and then click continue to answer the questions.*

"... While such elections would normally go unnoticed outside of student circles, the proposed changes to Universities' fee and examinations systems have put this particular election, and its contenders, in the spotlight:

<table>
<thead>
<tr>
<th>Candidate 1</th>
<th>Candidate 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: James Smith</td>
<td>Name: Richard Jones</td>
</tr>
<tr>
<td>Age: 21</td>
<td>Age: 22</td>
</tr>
<tr>
<td>Born in: South Australia</td>
<td>Born in: Victoria</td>
</tr>
<tr>
<td>Degree: Mechanical Engineering</td>
<td>Degree: Civil Engineering</td>
</tr>
<tr>
<td>Course average (thus far): 73</td>
<td>Course average (thus far): 71</td>
</tr>
<tr>
<td>Experience: gap year working as a team leader in a Non-Governmental Organisation</td>
<td>Experience: President of the Engineering Undergraduate Association</td>
</tr>
</tbody>
</table>

There is no doubt that both candidates have the background and experience required to be successful as Union President at this critical juncture in the University's history.
1. To what extent do you agree with the following statements regarding the message you just read *(1 = not at all; 7 = completely agree)*:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was informative</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was accurate</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was fair</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was unbelievable</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was biased</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was useful</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was instructive</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was credible</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was trustworthy</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was inexact</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was neutral</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was precise</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

2. To what extent do you think the following characteristics describe the source of the message you just read *(1 = not at all; 7 = completely agree)*:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Unqualified</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Honest</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Sincere</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Selfish</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Unintelligent</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Broad</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Virtuous</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
3. To what extent did you experience the following emotions while you were reading the message \((1 = \text{not at all}; \ 7 = \text{a lot})\):

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Irritated</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Pleased</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Annoyed</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Hostile</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Calm</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

4. To what extent do you agree with the following statements regarding the message you just read \((1 = \text{not at all}; \ 7 = \text{completely agree})\):

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was dogmatic</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was fun</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to make a decision for me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to manipulate me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was interesting and novel</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to keep me engaged</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to pressure me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message mentioned the number of alcohol related problems that occur annually</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message mentioned the number of alcohol related problems that occur daily</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
According to the message, alcohol related problems are a serious issue for young adults

5. Please list the thoughts and feelings you experienced when reading the message:

1.

2.

3.

4.

6. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 3 = neither agree nor disagree; 5 = strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations trigger a sense of resistance in me</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I find contradicting others stimulating</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>When something is prohibited, I usually think “that’s exactly what I am going to do”</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I consider advice from others to be an intrusion</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I become frustrated when I am unable to make free and independent decisions</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I become angry when my freedom of choice is restricted</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advice and recommendations usually induce me to do just the opposite</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I resist the attempts of others to influence me</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
It makes me angry when another person is held up as a role model for me to follow

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

When someone forces me to do something, I feel like doing the opposite

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

7. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 3 = neither agree nor disagree; 5 = strongly agree)*

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

I know when an offer is “too good to be true”

I can tell when an offer has strings attached

I have no trouble understanding the sales tactics used by salespeople

I know when a marketer is pressuring me to buy

I can see through sales gimmicks used to get consumers to buy

I can separate fact from fantasy in advertising

8. Please answer the following questions:

a. Did you find the message easy to understand?  
   Yes [ ] No [ ]

   If you answered no, please indicate which parts of the message you found difficult to understand:

b. Did you find the message realistic?  
   Yes [ ] No [ ]

   If you answered no, please indicate why not:
c. Were there any questions you found difficult to understand? 
   Yes ☐  No ☐

d. Were there any questions you found difficult to answer? 
   Yes ☐  No ☐

e. What do you think is the purpose of this study?

9. Please indicate:

   a) your age: _________________

   b) sex: _________________

   c) nationality: _____________________________

   d) cultural/ethnic background: ________________

   e) religion: _______________________________

*Thank you for your participation!*
“Topics of Interest” Study

Thank you for your participation!

We are interested to know how relevant and interesting certain topics are for university students.

Imagine you are walking along the street and come across the Public Service Announcement poster you will see next. Based on pre-tests, we have found that most people need about two minutes to read it and think about the information. However, in most ‘real life’ situations, you have considerably less time to read an advertisement even if you are interested in it. Therefore, you will be given one minute to process the information and come to a clear evaluation. Please take this time to read over the message and get an overall picture of its contents.

STUDENT IDENTIFICATION NUMBER: ______________________________
Coffee is a drug

As a small, lipid-soluble molecule (like alcohol and nicotine), caffeine is one of the few substances capable of penetrating the blood-brain barrier, critical to maintaining cerebral homeostasis.

Nearly 80% of the world's population uses caffeine, and 25% of the population is diagnosed with a mental disorder. Clinical studies indicate that there may be significant overlap between those figures.

- A significant number of people over-ingest coffee and suffer the physical and/or psychological effects of caffeine poisoning
- People experience intensified stress and psychotic experiences due to excessive caffeine consumption.
- People increase their risk of experiencing hallucinations as well other psychoses such as delirium, manic depression, schizophrenia, or anxiety syndrome by consuming too much caffeine

Because self-awareness is one of the first casualties of a toxic brain, caffeinism victims may not even suspect they are ill or (if they do) that caffeine is at the root of their symptoms.

Preserve your mental health: don’t drink coffee!
1. To what extent do you agree with the following statements regarding the message you just read (1 = not at all; 7 = completely agree):

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was informative</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was clear and easy to understand</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was accurate</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was unfair</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was believable</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was biased</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was useful</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was instructive</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was credible</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was trustworthy</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was inexact</td>
<td>1 2 3</td>
<td>4 5 6 7</td>
</tr>
<tr>
<td>The message was neutral</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was precise</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>The message was accurate</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
</tbody>
</table>

2. To what extent do you think the following characteristics describe the source of the message you just read (1 = not at all; 7 = completely agree):

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>Fair</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>Honest</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>Unqualified</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>Selfish</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>Intelligent</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
</tbody>
</table>
3. We are also interested in your opinions regarding advertising more generally. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 5 = strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>We can depend on getting the truth in most advertising</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advertising’s aim is to inform the consumer</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I believe advertising is informative.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advertising is generally truthful</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advertising is a reliable source of information about the quality and performance of products</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Advertising is truth well told</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>In general, advertising presents a true picture of the product being advertised</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I feel I've been accurately informed after viewing most advertisements</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Most advertising provides consumers with essential information.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
4. To what extent do you agree with the following statements regarding the message you just read (1 = not at all; 7 = completely agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message was dogmatic</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was fun</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to make a decision for me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to manipulate me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message was interesting and novel</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to keep me engaged</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>The message tried to pressure me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

5. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 5 = strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>While reading the message I tried to take in as much detail as I could</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>While reading the message, I considered not only its content, but also the tone and style in which it was written</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>While reading the message I tried to get just an overall idea of what it was trying to say</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>While reading the message, I focused mainly on its content, what it was trying to say</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>While reading the message, I thought about what its creators were trying to achieve</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I could relate to the recommendations proposed in the message</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>While reading the message, I thought about the motivations behind its creation</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The recommendations contained in the message seemed like something to keep in mind in the long term, for the more distant future.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
While reading the message, I felt as though it was addressing me personally, as if it was “close” to me

The message felt distant from me, and my sense of self

The recommendations contained in the message appeared to be for immediate consideration and implementation

6. We are also interested to know your opinions regarding the specific topic assigned to you and the recommendations proposed in it. To what extent do you agree with the following statements regarding coffee (and other hot drinks) consumption? (1 = Strongly disagree; 5 = Strongly agree)

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>People should be free to drink as much coffee as they like</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Being able to choose how much coffee I drink is very important to me</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Limits should not be imposed on people’s coffee consumption</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I would feel uncomfortable if limits were imposed to the number of cups of coffee I could consume in one day</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Having a choice in my actions (for instance, in choosing how many cups of coffee I drink in one day) forms an important part of my sense of self.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

7. Below is a list of feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you felt in this way while reading the article. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>very slightly or not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

| _______ alert | _______ calm | _______ upset |
| _______ strong | _______ afraid | _______ angry |
| _______ irritable | _______ attentive | _______ happy |
| _______ interested | _______ nervous | _______ lively |
| _______ distressed | _______ inspired | _______ enthusiastic |
8. Please try to recall the information you read in the poster in as much detail as you can:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Please indicate the extent to which you agree with the following statements (1 = strongly disagree; 3 = neither agree nor disagree; 5 = strongly agree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulations trigger a sense of resistance in me</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I find contradicting others stimulating</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>When something is prohibited, I usually think “that’s exactly what I am going to do”</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I consider advice from others to be an intrusion</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I become frustrated when I am unable to make free and independent decisions</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>It irritates me when someone points out things</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
which are obvious to me

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I become angry when my freedom of choice is restricted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advice and recommendations usually induce me to do just the opposite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I resist the attempts of others to influence me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It makes me angry when another person is held up as a role model for me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When someone forces me to do something, I feel like doing the opposite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. Please indicate the extent to which you agree with the following statements (1 = *strongly disagree*; 3 = *neither agree nor disagree*; 5 = *strongly agree*)*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know when an offer is “too good to be true”</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I can tell when an offer has strings attached</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I have no trouble understanding the sales tactics used by salespeople</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I know when a marketer is pressuring me to buy</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I can see through sales gimmicks used to get consumers to buy</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I can separate fact from fantasy in advertising</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

11. Please answer the following questions:

a. Did you find the message easy to understand?
   Yes [ ] No [ ]

b. Did you find the message realistic?
   Yes [ ] No [ ]

c. Were there any questions you found difficult to understand?
d. Were there any questions you found difficult to answer?

[ ] Yes  [ ] No

e. What do you think is the purpose of this study?

[ ] Yes  [ ] No

e. What do you think is the purpose of this study?

f. Where do you think the ad you were presented with comes from and who do you think wrote it?

f. Where do you think the ad you were presented with comes from and who do you think wrote it?

12. Please indicate:

f) your age: _________________

g) gender: _________________

h) nationality: _________________________

i) cultural/ethnic background: _________________________

j) religion: _________________________

Thank you!
Appendix 14 – Study Three – Drinks Survey (Second Task)

Product and Brand Preferences – Drinks’ study

We are interested in what people like to drink – their choices of different drinks as well as brand preferences within each type of drink.

Part I - For each of the drinks below, please indicate how much you like the product, as well as how likely you are to purchase it:

1. Is this a product you typically consume?  
   - Yes [ ]  - No [ ]

2. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)
   
<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

3. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)
   
<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

4. Is this a product you typically consume?  
   - Yes [ ]  - No [ ]

5. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)
   
<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
6. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

7. Is this a product you typically consume?

Yes  [ ]  No  [ ]

8. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

9. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

10. Is this a product you typically consume?

Yes  [ ]  No  [ ]

11. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

12. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
13. Is this a product you typically consume?

Yes [ ] No [ ]

14. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

15. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

16. Is this a product you typically consume?

Yes [ ] No [ ]

17. How much do you like this product? (1 = Don’t like it at all; 7 = Like it a lot)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Like it a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

18. How likely are you to buy this product during over the next week? (1 = not at all likely; 7 = extremely likely)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Part II – For each pair below, please indicate the product or brand you would be more likely to purchase (circle your preferred option, a or b):

1. 
   a) 

2. 
   a) 

   b)
3. 
   a) 
   
   b) 

4. 
   a) 
   
   b)
Please indicate:

k) your age: _________________

l) gender: _________________

m) nationality: _____________________________

n) what do you think is the purpose of this study?

_______________________________________________________________________
_______________________________________________________________________

Thank you for your participation