

**Influencing Consumer Resistance
through Priming: The Role of Mindsets
and Motivational Orientation**

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Influencing Consumer Resistance through Priming: The Role of Mindsets and Motivational Orientation

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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Philosophy is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed Brian Herman.

ID No: 11211133

Date: 06.12.16

In memory of Eilish Kennedy

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Influencing Consumer Resistance through Priming: The Role of Mindsets and Motivational Orientation

Brian Harman

Abstract

Counterarguing (bolstering) mindsets increase (decrease) consumer resistance to persuasive appeals (Xu & Wyer, 2012). To date, research has neither replicated these mindsets nor examined their boundary conditions. Six experiments were conducted to (a) address these issues and (b) to contribute to the scarce literature of consumer-resistance mindsets. This research extends the work of Xu and Wyer (2012) in a number of ways. First, it examined whether approach (avoidance) motivation moderates the perceptual, behavioural and cognitive effects of bolstering (counterarguing) mindsets. Second, it tested the hypothesis that bolstering (counterarguing) mindsets attenuate (accentuate) an individual's ability to detect deceptive marketing tactics (Study 2 and Study 3). Third, it investigated whether an individual's chronic persuasion knowledge moderates the effect of a bolstering mindset (Study 3). Finally, the research tested the hypothesis that bolstering (counterarguing) mindsets may be activated via episodic recall (Studies, 3, 4 and 6). Study 1 failed to replicate the counterarguing mindset. However, the study does tender methodological contributions to the mindset priming literature. Study 2 and Study 3 successfully replicated the effects of a bolstering mindset and provide evidence that both strong approach motivation (Study 2) and weak approach motivation (Study 3) can increase an individual's willingness to pay. The bolstering

mindset is also found to increase non-monetary, behavioural intentions (i.e. petition signing) and can favourably influence perceptual responses (i.e. product attractiveness). The research also demonstrates that bolstering (counterarguing) mindsets can inhibit the generation of incongruent thoughts and regulate the activation of Persuasion Knowledge. Importantly, both mindsets are found to strongly influence an individual's willingness to pay which has important implications for both consumers and marketers. The research also suggests that the counterarguing mindset may be activated via episodic recall. While the observed mindset priming effects are weak they are generally consistent with the results reported by Xu and Wyer (2012).

CHAPTER 1: INTRODUCTION

“We must give up the insane illusion that a conscious self, however virtuous and however intelligent, can do its work singlehanded and without assistance” (Aldous Huxley (1956) - *The Education of an Amphibian*).

Non-conscious behaviours are important determinants of human behaviour (Dijksterhuis, 2010). Indeed, it has long been recognised that outsourcing cognitive tasks to non-conscious processes allows individuals to efficiently navigate everyday life (James, 1890). Since individuals now spend much of their lives within consumer domains it must follow that consumer behaviours are often directed by non-conscious processes (Dijksterhuis, Smith, van Baaren, & Wigboldus, 2005). The increasing recognition of this fact is evidenced by the growing body of academic research on consumer mindsets. Much of this research suggests that consumer “mindsets” make individuals more vulnerable to persuasive appeals and compliance gaining attempts (e.g. Dhar, Huber, & Khan, 2007; Xu & Wyer, 2007, 2008). However, few studies have investigated how behavioural mindsets regulate consumer resistance strategies. Indeed, Knowles and Linn (2004) contend that consumer resistance and consumer protection appear to be underdeveloped themes within consumer research. This seems unusual considering the important role that consumer resistance plays in everyday life. Public environments now serve as “platforms for advertising” (Habermas, 1991; p. 181) in which embattled consumers are exposed to roughly 1000 adverts a day (Fennis & Strobe, 2010).

Resistance is the most important element in the persuasion process (Knowles & Linn, 2004). Accordingly, mindsets that regulate consumer resistance are especially important phenomena. Indeed, mindsets which regulate resistance strategies are pivotal to the vested interests of consumers and marketers alike. Counterarguing and bolstering are frequently used to resist persuasion attempts (Knowles & Linn, 2004). Counterarguing occurs when an individual generates thoughts that refute the arguments being made in a persuasive message (Rucker & Petty, 2004). Furthermore, counterarguing is found to be the most effective resistance strategy available to individuals (Zuwerink Jacks & Cameron, 2003). In contrast, bolstering occurs when a person reaffirms their own beliefs when evaluating a persuasive message. An individual's beliefs may be congruent or incongruent with the position being advocated by the message. Accordingly, bolstering a personal belief can induce resistance (Zuwerink Jacks & Cameron, 2003) or can induce persuasion (Xu & Wyer, 2012). The result depends upon the valence of the thoughts being bolstered. Counterarguing and bolstering may be enacted across the full gamut of persuasion scenarios and compliance gaining contexts. Consequently, both of these cognitive strategies are central to consumer welfare and autonomy.

Recent research suggests that bolstering and counterarguing behaviours can be activated outside of conscious awareness (Xu & Wyer, 2012). The research demonstrated that inducing individuals to generate opposing thoughts (counterarguing) or supporting thoughts (bolstering) in one domain increases the likelihood of these thought processes being adopted when evaluating subsequently encountered messages. The research provided the first demonstration that behavioural mindsets can regulate resistance processes and influence perceptions of persuasive

communications. More specifically, Xu and Wyer (2012) demonstrated that bolstering (or conversely counterarguing) mindsets increase (or conversely decrease) the favourability of future evaluative judgements of adverts (i.e. advert persuasiveness and advert appeal) and products featured in the adverts (i.e. product attractiveness). The authors also examined the underlying mediating process (i.e. thought generation) that governs the generation of these mindsets. However, Xu and Wyer (2012) did not examine the boundary conditions of these mindsets nor test for any moderating factors. Using a social psychological lens, this doctoral research employs an experimental approach to investigate these outstanding questions. This research aims to extend our general understanding of these behavioural mindsets and their carryover effects in three ways.

First, the research tests the hypothesis that an individual's motivational orientation (approach, avoidance) moderates bolstering and counterarguing mindsets. Specifically, it is hypothesised that individuals exhibiting strong approach (or conversely avoidance) orientations will exhibit stronger priming effects when primed with a bolstering (or conversely counterarguing) mindset. Past research has already demonstrated that motivational orientation can moderate perceptions of advertising (Gerend & Shepherd, 2007; Hevey & Dolan, 2014; Mann, Sherman, & Updegraff, 2004; Sherman, Mann, & Updegraff, 2006; Updegraff, Sherman, Luyster, & Mann, 2007). However, to the author's knowledge, no research has yet tested if motivational orientation moderates the carryover effects of bolstering and counterarguing mindsets. This research makes a valuable theoretical contribution to the scarce literature on these behavioural mindsets by demonstrating that motivational orientation does indeed moderate their effects. Specifically, the research demonstrates that individuals

exhibiting strong approach motivation are especially influenced by the bolstering mindset. Interestingly, the results suggest that strong approach motivation can both accentuate and attenuate the effects of the mindset. This finding provides an important new insight into the operation of this mindset and extends our knowledge of its consumptive implications for consumers in the marketplace.

Second, this research tests the hypothesis that bolstering and counterarguing mindsets regulate an individual's willingness to pay for commercial products and aversive propositions (e.g. taxation). Individual's willingness to pay is an especially important metric for marketers and thus occupies a central position within marketing theory (e.g. Avnet & Higgins, 2006). The current research demonstrates that an individual's willingness to pay is influenced by counterarguing and bolstering mindsets. Furthermore, the research demonstrates that the circumstances under which these mindsets can influence an individual's willingness to pay are not as narrow defined than previously thought. Specifically, the research demonstrates that bolstering and counterarguing mindsets can influence an individual's willingness to pay even when the mindset is congruent with the person's initial thoughts regarding the target object. Importantly, the research provides the first evidence that the bolstering mindset can increase individuals' willingness to pay for both aversive products and commercial products. These findings again extend our knowledge of the consumptive implications of these mindsets in the marketplace.

Third, the current research tests the hypothesis that counterarguing and bolstering mindsets can be induced by past memories associated with these behaviours. Previously, Xu and Wyer (2012) employed priming procedures that activated mindsets in real time. Yet the broader literature on mindsets and priming

procedures distinguishes between at least two different types of priming procedures i.e. procedurally primed mindsets (Fujita & Trope, 2014; Shen & Wyer, 2008; Xu & Wyer, 2008) and episodic primed mindsets (Galinsky & Moskowitz, 2000; Kray & Galinsky, 2003). Indeed, a recent study by Fransen and Fennis (2014) demonstrated that an episodic recall task could be used to activate resistance by priming “persuasive intent”. The researchers found that asking participants to recall a situation in which someone tried to influence them was sufficient to activate future resistance to adverts. Indeed, priming persuasive intent induced comparable levels of resistance to explicit forewarnings of upcoming persuasive attempts. However, the authors did not prime a specific resistance strategy. Consequently, there is no way to know what type of resistance strategies were activated as a result of this episodic priming task. The current research seeks to address this problem by testing if activating memories of episodes involving specific resistance strategies (counterarguing or bolstering) can prime the deployment of counterarguing behaviours in future, unrelated domains. The research provides evidence to suggest that a counterarguing mindset can be activated by simply recalling past episodic memories.

The research also tests the hypothesis that bolstering and counterarguing mindsets regulate the activation of Persuasion Knowledge (PK). Consumers rely upon PK to assess the credibility and honesty of persuasive communications (Kirmani & Campbell, 2009). However, the research found limited evidence to support this hypothesis. Nevertheless, the current research serves as an important first replication effort for bolstering and counterarguing mindsets. To the author’s knowledge, no research has yet attempted to replicate these important mindsets. The research tests both the robustness and generalisability of these behavioural mindsets. In attempting

to replicate these mindsets this research answers the urgent call and pressing needs for increased replication efforts within psychology (Kahneman, 2012; Simons, 2014). Replication is the sine qua non of science (Finkel, Eastwick, & Reis, 2015). In recent times, the importance of replication efforts has come to the fore (Chambers & Sumner, 2012; Makel, Plucker, & Hegarty, 2012; Simons, 2014). Replication allows researchers to map the boundary conditions and provide future researchers with more accurate estimations of effect sizes. The results of this research make a theoretical contribution to the scarce literature by virtue of the fact that, to the author's knowledge, these results represent the first replication of bolstering and counterarguing mindsets.

1.1. Structure of thesis

The thesis is structured as follows: Chapter 1 includes an introduction and outlines the aims and contributions of the present research. It also provides an overview of the structure of the thesis. Chapter 2 begins by introducing the reader to the concept of priming and the principle of knowledge accessibility which underpins all explanations of priming effects. Having provided the reader with a conceptual outline of the priming literature the chapter narrows its focus effects to priming effects within consumer behaviour and persuasion contexts. Of particular importance are consumer "mindsets" which have enjoyed considerable attention within the academic literature in recent years. The author examines the concept of mindset and describes the processes that govern the activation and operation of this cognitive phenomenon. Finally, a literature review of consumer mindsets explores how mindsets influence various facets of consumer behaviour. Particular attention is paid

to mindsets that regulate consumer resistance and influence how consumers enact self-defence strategies. The chapter closes by discussing the theoretical importance of two recently discovered mindsets; i.e., the bolstering mindset and the counterarguing mindset.

Chapter 3 aims to demonstrate the powerful influence of approach and avoidance tendencies on human behaviour. Drawing upon both motivational and self-regulation literatures, the author outlines how approach and avoidance tendencies guide perceptual, cognitive, behavioural and goal-directed processes. The author highlights the central role that approach and avoidance tendencies play within consumer domains. The author reviews the large body of empirical evidence which finds that consumer responses to marketing stimuli are largely dependent on their approach and avoidance tendencies. Regulatory Fit Theory is then used as an overarching theoretical framework to demonstrate the strong evidence for fit effects. The information processing implications of fit and non-fit effects are discussed and their implications for consumer persuasion and consumer resistance are outlined. The chapter closes by discussing the feasibility of motivational orientation as a mindset moderator of counterarguing and bolstering mindsets. The author also discusses the possibility of fit effects between mindset and motivational orientation.

Chapter 4 formalises the hypotheses being tested in this research project and provides an overview of the research studies that were conducted. The chapter also provides a critical review of the literature on priming research and outlines the importance of replication efforts in psychology. The challenges associated with replicating psychological studies and in particular, priming studies are also discussed.

Chapter 5 contains the empirical studies on counterarguing and bolstering mindsets. Four studies are reported. Study 1 attempted to replicate the bolstering and counterarguing mindsets using the same procedural priming procedure employed by Xu and Wyer (2012). However, the study failed to replicate the effects of these behavioural mindsets with no difference in perceptions of subsequently encountered adverts being observed across conditions. Study 2 again used a similar procedural priming procedure. The study demonstrated that bolstering (or conversely counterarguing) mindsets increased (or conversely decreased) evaluative judgements of persuasive communications. As expected, approach motivation moderated the effects of a bolstering mindset such that individuals exhibiting high (or conversely low) approach motivation subsequently generated more (less) favourable judgements of a persuasive communication. Furthermore, the bolstering mindset was found to desensitise participants to manipulative persuasion tactics. Study 3 adopted a similar experimental design to Study 2 but an episodic priming procedure was included for exploratory purposes. While the episodic priming procedure failed to induce the mindsets, the procedural priming procedure was successful. Contrary to expectation, individuals exhibiting strong approach motivation exhibited a decreased willingness to pay when primed with a bolstering mindset. Study 4 again tested an episodic priming procedure. The results suggest that the mindsets can be induced using this novel priming procedure. Overall, the findings show weak priming effects and only some support for the moderating role of motivational orientation (i.e. approach, avoidance). The results imply that these behavioural mindsets are more subtle and more complex than originally conceptualised.

Chapter 6 summarises the results of the research and provides a general discussion on the findings. The theoretical and methodological contributions of the research are outlined and its practical implications are discussed. The limitations of the research are also acknowledged. The chapter also discusses the current political climate within social psychology and maps out the likely future trajectory of consumer research within this field of study.

CHAPTER 2: PRIMING AND MINDSETS

2.1. The History of Unconscious Thought

“Let’s say you pick up a rock and you throw it. And in mid-flight you give that rock consciousness and a rational mind. That little rock will think it has free will and will give you a highly rational account of why it has decided to take the route it is taking” (Wolfe, 2004; p. 283).

From the time of the Ancient Greeks, man’s interest in (un)conscious cognition has been a recurring theme. Greek philosophers speculated that exposure to different stimuli promoted processes that allowed thoughts to bubble to the surface of consciousness (Lagerlund, 2011). Indeed, Dijksterhuis (2010) asserts that the first reference to unconscious thought may have been written as early as 3 AD. Specifically, it was Plotinus who wrote “the absence of a conscious perception is no proof of the absence of mental activity” (Koestler, 1964; p.148). From Dante to Da Vinci, Cervantes to Shakespeare, various influential thinkers have deliberated on the non-conscious processes that characterise the human condition. Indeed, the core components that drive unconscious behaviour have been widely debated for centuries. Speculation relating to the existence of mental representations date back to the 12th century (Higgins & Eitam, 2014). However, it was not until the 18th century that German philosopher Ernest Platner coined the term “unconscious”. More striking still, it is only in the last forty years that social psychologists have begun the task of scientifically exploring the unconsciousness. During this period of discovery, “priming” has been an experimental tool that has allowed psychologists to gain new

insights into how unconscious processes colour perceptions and drive human behaviours (Janiszewski & Wyer, 2014).

2.2. Priming

Priming is an implicit memory effect which creates a perceptual readiness by increasing the accessibility of mental content (Bargh & Chartrand, 2000). This perceptual readiness to “go beyond the information given” (Bruner, 1957) “primes” individuals to process subsequently encountered stimuli in specific ways (Higgins, 1996). Priming effects are “ubiquitous and pervasive across the major forms of psychological phenomena: appraisal and evaluation, motivation and goal pursuit, social perception and judgment, and social behaviour” (Bargh, 2006; p. 148). Recently activated cognitive procedures or concepts can induce information processing strategies that influence the individual’s cognitive, affective or behavioural responses to stimuli outside of conscious awareness. Priming effects punctuate our daily lives and unconsciously usher our everyday behaviours. Many priming effects are harmless, even humorous. To illustrate the point consider the following anecdote.

Picture the scene. The author is standing alone in a lecture hall in Dublin City University. Exam scripts clutched in hand, he patiently waits for the students to be granted entry into the exam hall. Outside, in the corridor, the anticipation builds as students nervously chat to their classmates. As the minutes creep by the author’s mind begins to wander. Door opens. Abruptly, this nomadic journey into the introspective blankness is halted by the sight of students entering the hall. Snapping to attention he finds himself humming a tune as he prepares to greet the students. Hmm hmm hmmm hmmm hmm hmmm hmmm hmmm hmmm. The French national anthem, La Marseillaise. How strange. I wonder where that came from he muses. Oh well, back to work.

It was a number of minutes later when the author made the conceptual link between the prime and the behaviour. Those were French language students who had been chatting outside the lecture hall. Aha! The chatter of French students had primed the author to begin humming *La Marseillaise*. For individuals less aware of priming effects, this curious incident would have perhaps gone unnoticed and unchecked. As the above case illustrates, priming effects are pervasive yet their subtle influence remains largely hidden and often benign. However, in consumer domains, the risk of exposure to primes is greater and the consequences of exposure more serious. Here, the associative costs of priming effects can escalate quickly. What's more, unlike the benign consequences outlined in the above example, within consumer domains, the implications of priming are more likely to be monetary than melodic in nature. This chapter outlines how mindset priming effects can erode consumer resistance and promote purchasing behaviours.

The term "priming" first appeared in academic literature to describe the heightened accessibility of mental representations (Lashley, 1951). Karl Lashley coined the term priming to describe responses that were consciously generated. However, it was almost a decade later before the term priming was expanded to encompass the broader remit of non-conscious cognition. Specifically, Segal and Cofer (1960) made the landmark discovery that mere exposure to a list of words could increase the likelihood of these words being used in a subsequent free association task. The authors used the term "priming" to describe the heightened probability of a recently activated concept influencing a subsequent, unrelated task (Segal & Cofer, 1960). However, it was not until the seminal social psychology study by Higgins, Rholes and Jones (1977) that researchers began to examine the social implications of

priming effects. The authors provided the first evidence that social processes such as impression formation could be influenced by priming. For example, in one study participants memorised words relating to either positive traits (adventurous, self-confident, independent, persistence) or negative traits (reckless, conceited, aloof, stubborn). In an ostensibly unrelated task, participants then read a paragraph describing a fictitious character named Donald whose behaviours could be construed as either being adventurous or reckless (Donald was considering doing a skydive or crossing the Atlantic in a sailboat). The results indicated that participants who had memorised words relating to positive (or conversely negative) traits were subsequently more likely to disambiguate Donald's behaviours in a positive (or conversely negative) light. The study provided evidence that activating trait concepts in one domain can lead to these concepts being used as evaluative criteria in conceptually similar yet unrelated future scenarios. Similarly, Srull and Wyer (1979) showed that priming the concept of hostility using a scrambled sentence task induced individuals to view target stimuli as more hostile in an unrelated task.

In the intervening years since these first priming studies, priming has evolved from a research methodology to an area of study in its own right. Priming has gone “from being the stagehand to being the star of the show” (Higgins & Eitam, 2014; p. 225). Indeed, the volume and the variety of empirical evidence for priming effects represents an “embarrassment of riches” (Bargh 2006; p. 148). Priming effects are found to manifest themselves across all knowledge categories (for a review see Janiszewski & Wyer 2014): semantic (e.g. Adaval & Monroe 2002; Nedungadi, 1990), affective (Schwarz & Clore, 1983), goal-related (Chartrand, Huber, Shiv &

Tanner, 2008; Förster & Friedman, 2008; Kruglanski, 2006) and behavioural (Bargh, Chen, & Burrows, 1996; Shen, Wyer, & Cai, 2012; Vohs, Mead, & Goode, 2008).

Over the last 40 years a diverse collection of over 12,000 priming studies have been published within the social sciences (Janiszewski & Wyer, 2014). This body of research provides convincing evidence that primes have the power to exert (in)direct influence across a wide range of social contexts and domains (Janiszewski & Wyer, 2014). Regardless of the type of priming effect; content and process primes all manifest themselves as a consequence of heightened knowledge accessibility.

2.2.1. Knowledge Accessibility

Knowledge accessibility refers to the activation potential of a mental construct (Higgins, 1996). As such, knowledge accessibility underpins all explanations of priming effects. The knowledge that we have access to at any given moment is determined by a multitude of factors (for reviews see Higgins, 1996; Wyer, 2006). For example, the frequency and recency of knowledge activation determines how easily this knowledge comes to mind (Wyer, 2008). Consequently, the strength of the associative links between a prime and a “target” (stimulus that is affected by the prime) will determine the strength of the priming effect.

While individuals may be aware of the presence of a prime (e.g. mindset priming) or unaware of the presence of a prime (e.g. subliminal priming), all priming effects occur because individuals do not realise that the thoughts that come to mind are influenced by their exposure to the prime. Indeed, research finds that when individuals are forewarned about misattributing their thoughts, priming effects disappear (Loersch & Payne, 2012; Verwijmeren, Karremans, Bernritter, Stroebe, &

Wigboldus, 2013). The researchers also showed a prime frequency effect whereby the rate of decay over time (5 minutes, one hour, one day) was a function of the strength of this semantic priming task. For example, participants who solved a low number of scrambled sentences related to hostility (i.e. 6 sentences) demonstrated weaker priming effects than those who had solved a higher number of scrambled sentences relating to hostility (i.e. 24 sentences). Interestingly, Bargh and Pietromonaco (1982) demonstrated that the hostility priming effects could also be produced subliminally. Subliminal primes (supraliminal primes) are primes that are consciously (unconsciously) attended to during the priming manipulation. This research demonstrated that primes can exert influence even when they are processed below the “liminal” (i.e. the threshold of conscious awareness).

2.2.2. Content vs. Process Priming

Priming research can be dichotomised into two broad categories; “content priming” and “process priming” (Janiszewski & Wyer, 2014). Content priming occurs when a piece of information makes a mental representation more cognitively accessible and primes behaviour that is conceptually associated with it (Janiszewski & Wyer, 2014). For example, priming a stereotype of a professor increases performance in a general knowledge test (Dijksterhuis & van Knippenberg, 1998), exposing individuals to the smell of a cleaning product induces cleaning behaviour (Holland, Hendriks, & Aarts, 2005), or exposing individuals to money primes can make them more independently minded (Vohs, Mead, & Goode, 2006). Content priming therefore increases the accessibility of mental representations relating to the prime. For example, priming the concept of a mother (prime) has been shown to increase

motivation and task performance (target) in subsequent tasks (Fitzsimons & Bargh, 2003). The authors contend that individuals naturally want to please their parents and so the strong associative link between the concept of mother and achievement goals is responsible for these priming effects. Of course such priming effects would not occur if the individual was estranged from their mother because this associative link would not exist.

In contrast, process priming involves “a mental act that results in the manipulation, transformation, or reorganisation of content” (Janiszewski & Wyer, 2014; p. 106). For example, Shen and Wyer (2008) demonstrated that asking individuals to rank items from low to high or from high to low in terms of different dimensions (e.g. price, tests scores, favourableness) dictated how they later searched for hotels in an ostensibly unrelated task. Participants were asked to estimate the average price for a hotel stay. The results indicated that individuals who had previously enacted a cognitive procedure in which they ranked items from low to high (high to low) were likely to enact this cognitive procedure in the second task. Specifically, individuals who ranked items from low to high (or conversely, from high to low) in the first task were found to pay relatively more attention to the lower (or conversely to the higher) priced hotels in the second task. Accordingly, individuals in the low to high (or conversely high to low) conditions estimated the average hotel price to be lower (or conversely higher) because of the procedural search bias that carried over from the initial priming task. Interestingly, cognitive procedures may carryover at various levels of abstraction (Shen et al., 2012). For example, the researchers demonstrated that inducing individuals to speak slowly (or conversely quickly) in one task primed them to complete a questionnaire slowly (quickly) in an

ostensibly unrelated task. Process priming thus occurs when the cognitive processes enacted in one situation are carried over and activated in a subsequent situation. The likelihood of carryover effects being exhibited are dependent upon the accessibility of the cognitive procedure and its conceptual similarity, thereby applicability, within the second situation.

2.2.3. Studying Priming Effects

Today, “ever-larger, more complex and sophisticated representations are hypothesized to be prime-able” (Bargh, 2006; p. 151). However, priming research is already nearing “childhoods end” and there are now calls for researchers to move beyond “first generation questions” which are strictly concerned with identifying novel priming effects (Bargh, 2006; p. 147). Within social psychology, research questions may be classified as first generation, second generation or third generation questions (Tenenbaum & Eklund, 2007). First generation questions are typically “is” questions that ask whether there is a phenomenon, an effect or a relationship present. Second generation questions involve determining when effects will occur and are therefore involved in the search for moderating variables. Finally, third generation questions seek to identify mediating variables that can help answer how and why these effects manifest themselves (Tenenbaum & Eklund, 2007).

In recent years, numerous authors have highlighted the urgent need for greater replication efforts within social psychology (Cesario, 2014; Koole & Lakens, 2012; Simons, 2014). Replications allow researchers to test the robustness and generalisability of priming effects (Yong, 2012). Importantly, replication studies allow social scientists to narrow the effect sizes of priming to more ecologically valid

parameters. Consequently, replication efforts provide researchers with more confidence in both the strength and generalizability of the discovered priming effect (Simons, 2014).

Consumer researchers have a particular interest in priming effects associated with “mindsets”. Mindsets have been found to influence a wide variety of consumer behaviours (for a review see Wyer & Xu, 2010). Newly discovered, bolstering and counterarguing and mindsets have been found to regulate consumer resistance (Xu & Wyer, 2012). Consequently, these mindsets have potentially far reaching implications for consumers and marketers. Counterarguing and bolstering responses occur across a wide range of consumer contexts and dictate the effectiveness of marketers’ persuasive appeals and consumers’ resistive responses. However, to our knowledge, no research has yet attempted to replicate these mindsets. The conditions that influence the strength of these mindsets is a theoretically important, second generation question that remains unanswered. Research that could provide a diagnostic tool for identifying individuals who are more vulnerable to bolstering and counterarguing mindsets would make an important contribution to the scarce literature.

2.3. Mindsets

“The stream of our thought is like a river. On the whole, easy simple flowing predominates in it, the drift of things is with the pull of gravity, and effortless attention is the rule” (James, 1890; p. 451).

The Oxford English dictionary defines a mindset as “a set of attitudes or fixed ideas that somebody has and that are often difficult to change”. Within academic literature

the term mindset has been loosely defined. For example, some authors have conceptualised mindsets broadly as artefacts of culture (Uskul, Oyserman, Schwarz, Lee, & Xu, 2013; Xu, Shen, & Wyer, 2012) or as personality traits (Kühnen & Oyserman, 2002). Other researchers proffer more narrowly defined conceptualisations. For example, Xu and Wyer (2007; p. 556) define “procedural” mindsets as being characterised by “the persistence of cognitive processes and judgement criteria that are activated in the course of performing a task”. Since the current research seeks to extend the work of Xu and Wyer (2012), the author duly adopts their definition of mindset for the purposes of the current research. According to Xu and Wyer (2012), a bolstering mindset occurs when the cognitive procedure of reaffirming a belief is carried over and automatically enacted in a conceptually similar yet unrelated situation (Xu & Wyer, 2012). Conversely, a counterarguing mindset occurs when the cognitive procedure of refuting the implications of a message is carried over and automatically enacted in a conceptually similar yet unrelated situation (Xu & Wyer, 2012).

Hamilton et al. (2011) maintain that research on mindsets can be traced back to early psychology studies (see Ach, 1905). However, other authors adopt a narrower perspective on mindsets and thus attribute the seminal studies on mindset to more contemporary sources. For example, Xu (2010) suggest that the origins of research on mindsets can be traced back to studies on behavioural rigidity (Luchins, 1942; Rees & Israel, 1935). These studies demonstrated that when individuals successfully applied a strategy to solve a problem they were subsequently more likely to rely on this strategy to solve similar problems in the future. For example, Luchins (1942) provided participants with three jars of varying volumes and then asked them to measure out a

particular volume of water using only the containers provided. Solving the task required participants to use a particular sequence of steps in order to measure the correct volume of water. Specifically, participants were required to fill the largest container with water before then using the smaller containers to subtract the excess water to arrive at the correct volume. The research demonstrated that once individuals successfully completed the puzzle they were likely to use the same strategy to successfully complete similar puzzles. Luchins (1942) found that individuals employed the same problem solving strategy on subsequent tasks even though much easier solutions were available. In short, the research demonstrated that behavioural rigidity predisposed individuals to select cognitively accessible strategies that were inappropriate or ineffective in future situations (e.g. Luchins 1942; Rees & Israel 1935). Despite the differing opinions regarding the nature and origins of mindsets, there is a general consensus among researchers that mindsets are cognitive phenomena which influence perceptual, behavioural, cognitive and even physiological responses to stimuli (Wyer & Xu, 2010).

Mindsets are found to exert influence at all stages of information processing. For example, mindsets can influence comprehension (e.g. Higgins & Chaires, 1980; Ulrich Kühnen, Hannover, & Schubert, 2001; Wakslak & Trope, 2006), evaluation (e.g. Hirt, Kardes, & Markman, 2004; Kray & Galinsky, 2003) and decision making processes (e.g. Gollwitzer & Bayer, 1999; Gollwitzer, Heckhausen, & Steller, 1990; Shen & Wyer, 2010). Due to the fact that mindsets infiltrate and influence all stages of information processing, they influence a wide range of human behaviour both within and outside of consumer contexts (for a review see Wyer & Xu, 2010). For example, mindsets that influence comprehension processes often change the relational

connections between stimuli. Abstract (or conversely concrete) mindsets induce individuals to process information at higher (or conversely lower) levels of abstraction (Trope & Liberman, 2000). Individuals in an abstract (or conversely concrete) mindset attend to broad (or conversely fine grained) detail during information processing which predisposes them to sorting information into more wider (or conversely narrower) categories (Trope & Liberman, 2000). Metaphorically speaking, while those exhibiting an abstract mindset see the forest, those with a concrete mindset see the trees (Dhar & Kim, 2007). Similarly, while a holistic mindset induces individuals to view stimuli as whole entities, a piecemeal mindset induces individuals to consider the constituent parts of an entity (Higgins & Chaires, 1980). Differences in relational thinking associated with these mindsets was found to influence an individual's ability to solve the Dunker candle problem (a puzzle which requires individuals to find a way to mount a candle to a wall with a cardboard box and a bunch of tacks).

Decision making processes may also be affected by mindset. For example, Kray and Galinsky (2003) found that when evaluating a goal, a counterfactual mindset induced individuals to become more sensitive to the potential disadvantages of pursuing the goal. Similarly, Hirt et al. (2004) found that a counterfactual mindset induced individuals to make more realistic assessments of the likelihood of their favourite team winning the National Basketball Championship (NBA).

Behaviours may also be affected by mindsets. Xu and Wyer (2008) demonstrated that making comparative evaluations in one scenario increased the likelihood of comparative evaluations being made in a subsequent shopping task. Since shopping behaviours typically involve making comparative judgements, the

carryover of this cognitive procedure was found to increase purchasing behaviours. For example, Xu and Wyer (2008) demonstrated that asking individuals to make comparisons between the physical attributes of different animals or making comparisons between two potential dating partners served to prime increased purchasing behaviours in a follow up task.

Similarly, Shen and Wyer (2008) found that information search strategies (i.e. ranking items from high to low or low to high along a product dimension) induced future shopping behaviours to be informed by this type of behaviour. Mindsets can also improve learning ability and academic performance (Aronson, Fried, & Good, 2002; Dweck, 2010; Good, Aronson, & Inzlicht, 2003). For example, Dweck (2010) demonstrated that a growth mindset can dramatically influence learning ability and academic performance, especially among children who belong to stereotyped groups (Aronson et al., 2002; Good et al., 2003). The influence of mindsets is not restricted to cognition.

Mindsets may help individuals to “overcome physiological limits with psychological means” (Draganich & Erdal, 2014; p. 858). Perhaps the most well-known manifestations of mindset is that of the placebo effect (Benson & Friedman, 1996). Draganich and Erdal (2014) demonstrated that supplying individuals with false feedback regarding their past night sleep quality was sufficient to influence their subsequent performance on cognitive tasks. Specifically, participants who were led to believe that they were sleep deprived performed worse on cognitive tests than participants who were told they had gained sufficient sleep. Interestingly, individuals’ self-reported sleep did not influence their subsequent task performance. Mindset are even found to influence metabolism (Crum, Corbin, Brownell, & Salovey, 2011;

Crum & Langer, 2007). For example, Crum et al. (2011) found that individuals who believed they were drinking a low (high) calorie milkshake demonstrated different physiological responses to the same food. Specifically, individuals who believed that they had drunk a high calorie milkshake exhibited a more pronounced decline in the gut peptide ghrelin than individuals who believed they had drunk a low calorie milkshake. The authors concluded that an individual's "mindset (sensible or indulgent) meaningfully affects physiological responses to food" (Crum et al, 2011; p. 424). Other research has demonstrated that mindsets can improve visual acuity (Langer, Djikic, Pirson, Madenci, & Donohue, 2010). Specifically, the authors demonstrated that an individual's vision could be improved by activating the concept of a pilot. Participants in the experimental condition were primed by undertaking a realistic flight simulator task. These individuals subsequently exhibited improved vision when compared to those in the control condition. Another study demonstrated that individuals primed with a motivational mindset "*try and you will succeed*" exhibited improved vision compared to those in the control condition (Langer et al., 2010).

A large body of research now demonstrates that mindsets can influence information processing at comprehension, evaluation and decision making stages (for a review see Wyer & Xu, 2010). Consequently, mindsets have the power to colour perceptions and thus steer behaviours outside of conscious awareness (Wyer & Xu, 2010). For example, abstract mindsets promote decision making based on broad, personal values (Torelli & Kaikati, 2009) while concrete mindsets promote decision making based on low level, detailed analysis (Goldsmith & Dhar, 2008). Prevention-focus mindsets induce individuals to focus on their responsibilities, while promotion-

focus mindsets induce individuals to focus on their personal goals (Higgins, 1997). A holistic mindset promotes conceptual thinking, while a piecemeal mindset promotes thinking in fine grain detail (Higgins & Chaires, 1980). A counterfactual mindset induces individuals to consider alternatives (Galinsky & Moskowitz, 2000; Hirt et al. 2004), while a mating mindset induces individuals to think creatively (Monga & Gürhan-Canli, 2012). A configural mindset aids decision making when distracted, while a featural mindset compromises decision making when distracted (Lerouge, 2009).

Mindsets may also influence relational thinking towards objects and people. For example, the consumer goal of utility maximisation (getting the most value for the investment made) can lead to a maximising mindset. A maximising mindset induces upward comparisons but also increases feelings of regret and loss (Ma & Roese, 2014). The maximising mindset also increases both product dissatisfaction and the likelihood that an individual will return a product that fails to live up to expectation. Mindsets can also influence behaviours and goal pursuit strategies (Gollwitzer et al., 1990). Deliberative mindsets promote open mindedness which facilitates critical thinking and unbiased decision-making. In contrast, an implemental mindset promotes closed mindedness and biased information processing. Consequently, a deliberative mindset facilitates the evaluation of pre-decisional goal pursuit options (Gollwitzer et al., 1990), while an implemental mindset facilitates post-decisional, goal focused behaviours (Gollwitzer et al., 1990). Research on implemental and deliberative mindsets has highlighted how mindsets may influence goal pursuit strategies that individuals enact both within and outside of consumer domains. However, little research has investigated specific goal pursuit strategies relating to the important goal

of resistance. The current research aims to address this imbalance in the academic literature. However, in order to fully appreciate the power that mindsets exert on consumer behaviour the reader must firstly understand the processes that govern their operation.

2.4. Mechanics of Mindset: Declarative and Procedural Knowledge

Mindsets are a manifestation of the activation of declarative and procedural knowledge (Shen et al., 2012; Shen & Wyer, 2008; Wyer & Xu, 2010). Declarative knowledge stores facts and semantic concepts (e.g. persons, places, things) and also the cognitive consequences of cognitively processing these concepts (e.g. attitudes, opinions and implicit theories) (Wyer & Xu, 2010). Mental representations of past episodic events (e.g. the time you failed your driving test), information relating to prototypic memories (e.g. going shopping for groceries) and implicit theories (e.g. the belief that car salesmen are untrustworthy) are also stored in declarative memory. Declarative knowledge is consciously processed and collected over time to facilitate future decisions (Smith, 1994). For example, within consumer buying situations, semantic concepts (e.g. price, perception of value, brand quality etc.) may be used to provide meaningful comparison criteria (Shen & Wyer, 2008).

In contrast to declarative knowledge, “procedural knowledge refers to the sequences of actions that we perform in order to achieve a goal” (Xu & Wyer, 2010; p. 7). As such, procedural knowledge relates to the rules and thought processes that ensure the efficient processing of declarative knowledge. It provides the protocols for accessing declarative knowledge and “includes the sequences of interrelated operations that transform, store, retrieve or make inferences based on declarative

knowledge” (Smith, 1994; p. 101). Procedural Knowledge may be activated via two general thought processes known as “cognitive procedures” and “productions”. According to the ACT Model, postulated by Anderson (1983), “productions” are simple rule based thought processes that follow an “If X, then Y” structure. These thought processes that regulate routine, goal pursuit behaviours (e.g. driving) are chronically accessible and automated due to repeated activation (Wyer, 2010). Consequently, productions require little or no cognitive mediation (Schneider & Shiffrin, 1977). Less efficient thought processes that require more deliberate thought are known as “cognitive procedures” (Shen & Wyer, 2010). Cognitive procedures are sequential strings of cognitive and motor actions that are used to achieve a goal. The complexity of the cognitive procedure is mirrored by the specificity or generality of the goal directed behaviour (e.g. ironing your shirt vs. correcting exam scripts). Cognitive procedures are used to access declarative knowledge and are stored as declarative knowledge. Consequently, unlike productions, individuals are often aware of the cognitive procedures they are implementing. For example, while individuals may not be aware of the productions that regulate their driver actions (e.g. gear change, braking, yielding at the roundabout etc.) they may be consciously aware of the cognitive procedures that they are employing when following the instructions issued by their sat nav (Wyer & Xu, 2010).

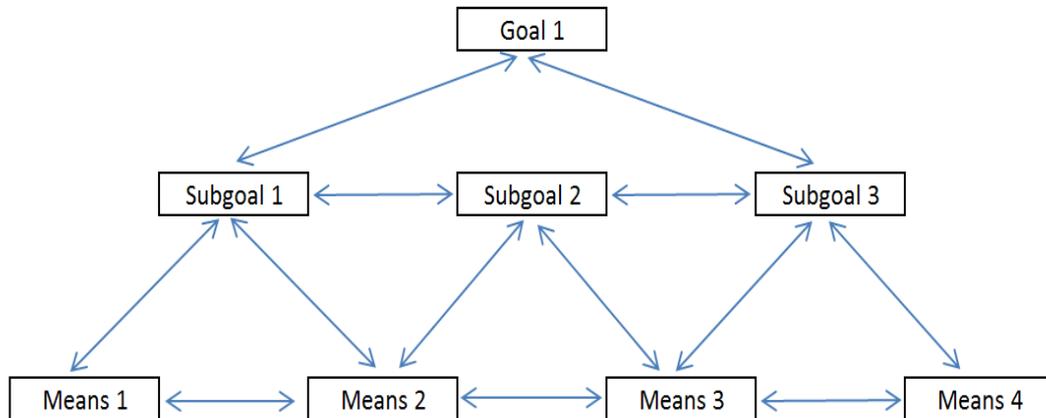
Both cognitive procedures and productions are used to guide goal directed behaviours. While productions are used to pursue very concrete goals (Anderson, 1983), cognitive procedures have a wider application and can be used to pursue more abstract goals (Kruglanski et al., 2002). Quite often individuals are unaware of the cognitive procedures that remain actively pursuing goals indirectly related to the

current situation. Indeed, cognitive procedures can influence an individual's goal pursuit strategies in situations that are unrelated to the situation that prompted their initial activation.

Mindsets represent the activation of non-conscious goal pursuit strategies that occur as a consequence of the orchestrated interaction between declarative knowledge and procedural knowledge (Wyer & Xu, 2010). Goals are cognitive representations that contain both information on the desired end state and the information needed to achieve this desired end state (Kruglanski, 1996). Research suggests that goals can be activated outside of conscious awareness (e.g. Fitzsimons et al., 2008) and may drive much of our consumer behaviour (Dijksterhuis, Smith, van Baaren, & Wigboldus, 2005). "People use their goals as scaffolds with which to build mental representations of the present in a selective manner" (Fujita & Trope, 2014; p. 73). Higher order (abstract) goals (e.g. to be happy) may be characterised as goals directed towards an end state (e.g. meeting friends or going shopping). In contrast, lower order (concrete) goals (e.g. making a cup of coffee) may be envisaged as a series of step-by-step procedures (i.e. filling the kettle, turning on the power, taking a cup from the cupboard etc.) used to achieve the desired end state (i.e. drinking a cup of refreshing tea). A hierarchy of goals and means (see Figure 1) may thus be envisaged.

Figure 1

Hierarchy of Goals and Means

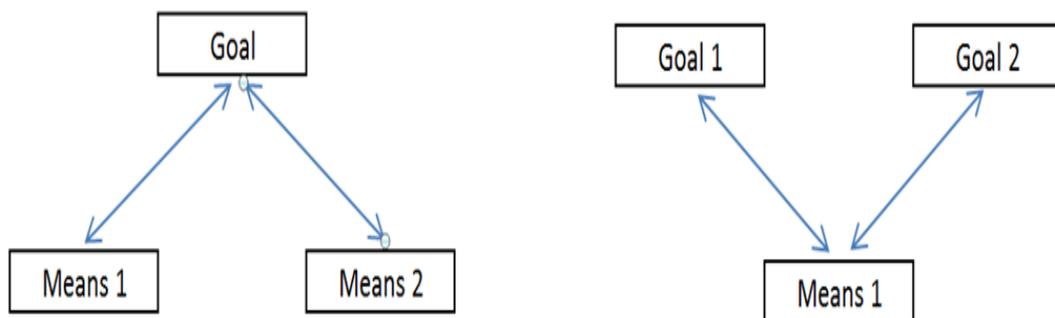


Kruglanski et al. (2002) posited the concepts of equifinality and multifinality to explain goal pursuit strategies. Equifinality refers to a situation in which one specific goal may be achieved via a variety of sub-goals (see Figure 2). For example, in order to commute to college one might walk, cycle, jog, take a bus or get a taxi. All of these options will achieve the goal of arriving at college (i.e. equifinality). In contrast, multifinality refers to a situation in which one sub-goal may be applicable to a variety of different goals (see Figure 2). Either of these transport options (i.e. means) can serve a variety of goals (i.e. end states). For example, cycling to college may satisfy fitness goals by increasing general fitness (cardio vascular exercise), weight loss goals (burning calories) and cultural/education goals (allow the cyclist to listen to audio books of literary classics during the cycle). Wyer and Xu (2010) invoke the concepts of equifinality and multifinality to explain how mindsets exert their influence. For example, one mode of thinking (counterarguing) can be applied to various situations with different goals (resisting a TV advert message, resisting the sales patter of a sales

person etc.). Conversely, two different modes of thinking (e.g. deliberative thinking vs. implemental thinking) can be used to achieve one goal (e.g. shopping for a new car). This distinction between equifinality and multifinality is relevant for the present research because counterarguing and bolstering cognitive procedures can be applied across a range of consumer contexts. Counterarguing occurs when an individual refutes the implications of a message. In contrast, bolstering occurs when an individual generates supporting arguments in response to a message. According to Xu and Wyer (2012 p. 922) “making supportive elaborations in an earlier situation (can) activate a general procedure of generating supporting arguments, giving rise to a bolstering mind-set”. Conversely, “generating opposing arguments in an earlier situation (can) give rise to a counterarguing mind-set” (Xu and Wyer, 2012 p. 922).

Figure 2

Equifinality and Multifinality



2.5. Mindsets within Consumer Domains

Much of our everyday actions are “introspectively blank” (Dijksterhuis et al. 2005). Indeed, much of human life is punctuated by states of unthinking automation; a

cognitive state known as “mindlessness” (Langer & Piper, 1987). Research on mindsets suggests that when many plans for pursuing a goal exist, individuals often choose the most cognitively accessible strategy (Forster, Liberman, & Förster, 2007; Higgins, 1996; Wyer, 2008). Consequently, past cognitive procedures that are fresh in the mind and readily accessible may determine which goal pursuit strategy is activated (Kruglanski et al., 2002). Understanding the role of goal pursuit within consumer domains is now a major research area within consumer research. By definition, all consumers are goal driven agents (Lee & Higgins, 2009). In recent years, considerable attention has also been paid to exploring how mindsets influence various facets of consumer behaviour including retail shopping behaviours (Büttner, Florack, & Göritz, 2013; Dhar et al., 2007; Lee & Ariely, 2006), brand evaluation strategies (Meyvis, Goldsmith, & Dhar, 2009; Monga & John, 2010), product evaluation strategies (Xu & Wyer, 2008; Xu & Wyer, 2007), information search strategies (Shen & Wyer, 2008), message evaluation strategies (Xu & Wyer, 2012), goal pursuit strategies (Gollwitzer et al. 1990; Shen et al. 2012; Shen & Wyer, 2010) and self-regulation (Bruyneel & Dewitte, 2006). Indeed, John and Park (2016) suggest that consumer mindsets have far reaching implications for a company’s advertising and branding activities. The authors assert that marketers need to fully appreciate the importance of consumer mindsets if they are to successfully implement tactical and strategic marketing plans. Knowing the mindset of those in the target market would help optimise tactical decision-making regarding advertising and promotional efforts. The mindset of those in the target market should also dictate marketers’ strategic decisions relating to brand positioning and brand architecture (John & Park, 2016). The growing body of scholarly work on mindsets reflects the importance of non-

conscious goal pursuit behaviours within consumer domains. There is growing evidence to suggest that mindsets may be automatically activated within different shopping environments; online shopping environments (Van Noort, Kerkhof, & Fennis, 2007), in-store and out of store shopping environments (Lee & Ariely, 2006) or the general macroeconomic environment (Yabar, 2012). Past research has demonstrated that even incidental exposure to stimuli can prime behaviours (Fitzsimons & Bargh, 2003; North, Hargreaves, & McKendrick, 1999). The following sections provide a review of mindsets and cognitive states that increase and decrease consumer resistance.

2.6. The Defenceless Consumer: Eroding Consumer Resistance

Resistance may be defined as the ability to withstand a persuasion attempt (McGuire, 1964). Others have defined “resistance” as the “function of the magnitude of deterrence” (Fuegen & Brehm, 2004; p. 45). Resistance may be evidenced in action, affect or cognition and may be conceptualised as a motive or as a process (Knowles & Linn, 2004). Briñol et al. (2004) claim resistance is not merely an outcome; it may be viewed as a psychological process or as a motivation. It may also manifest itself as a quality of an attitude or person (Brinol et al. 2004). Some scholars believe resistance “is the important element in the persuasion process” (Knowles & Linn, 2004a; p. vii). Any influence that unconsciously undermines an individual’s ability to resist persuasive communications represents a serious threat to consumer welfare and autonomy and thus warrants further investigation (Laran, Dalton, & Andrade, 2011).

2.6.1. Deliberative and Implemental Mindsets

Mindset theory posits two different “action stages” that govern goal pursuit; the pre-decisional stage and post decisional stage (Gollwitzer et al., 1990). In the pre-decisional action stage, an individual considers the pros and cons of pursuing various means to achieving a goal. After the options are evaluated the best goal pursuit strategy is then selected. The planning of how a goal will be executed occurs at the post-decisional stage. Mindset theory suggests that deliberative (implemental) mindsets are activated in the pre-decisional (post decisional) stages of goal pursuit. Individuals exhibiting a deliberative (implemental) mindset are more (less) likely to entertain unrelated or disconfirming thoughts (Gollwitzer & Bayer, 1999; Gollwitzer et al., 1990). Research suggests that deliberative mindsets facilitate greater recognition and a greater sensitivity to incidental information (Fujita, Gollwitzer, & Oettingen, 2007). In contrast, implemental mindsets induce biased information processing which reinforces goals at the expense of other goal relevant information (Fujita et al., 2007). An implemental mindset is also found to increase attitude strength, even towards unrelated, non-goal focused objects (Henderson, de Liver, & Gollwitzer, 2008). Henderson et al. (2008) also found that an implemental (deliberative) mindset induces self-reported attitudes that are more (less) predictive of future behaviours. This goal focus associated with an implemental mindset can manifest itself as higher confidence levels and elevated levels of task performance (Armor & Taylor, 2003). These findings suggest that an implemental mindset influences cognition and goal striving behaviours. Consequently, participants in an implemental mindset are found to overestimate the amount of control they have over their environment which results in an “illusion of control” (Fujita et al., 2007).

Research suggests that participants in an implemental mindset exhibit a strong goal focus and are five times more likely to consider the pros of a situation rather than the cons of a situation (Taylor & Gollwitzer, 1995). This research also suggests that an implemental mindset inhibits the production of negative thoughts and promotes a goal focused approach to information processing.

Research suggests that implemental and deliberative mindsets may also influence consumer behaviour (Fujita et al., 2007). Since virtually all consumer behaviours involve some element of goal pursuit it is not surprising that implemental and deliberative mindsets underpin a number of consumer behaviours. For example, Nenkov (2012) found that shoppers in a “pre-decisional” stage of consumption exhibit a deliberative mindset and are likely to assess a number of alternative products. Conversely, individuals in a post-decisional stage of consumption exhibit an implemental mindset and are more likely to think specifically about using one particular product. Interestingly, individuals in the pre-decisional (or conversely post-decisional) stage of consumption are more likely to be persuaded by adverts that use physiologically distant (close) language. These findings suggest a fit between message framing and these goal pursuit mindsets (Nenkov, 2012). These differences in thought processing occur because consumers “cross the Rubicon” from the decisional stages (pre-decisional and post-decisional phases) to actional stages (actional and post-actional phases (Gollwitzer, 1990).

Deliberative and implemental mindsets can be situationally induced (e.g. Armor & Taylor, 2003; Fujita et al., 2007; Gollwitzer et al., 1990; Henderson et al., 2008). For example, asking individuals to deliberate on the various pros and cons of resolving a personal problem induces a deliberative mindset. Conversely, outlining an

action plan to achieve a personal goal induces an implemental mindset (Gollwitzer et al., 1990). Deliberative and implemental mindsets may also be primed by situational norms. For example, action orientated planning within a bargaining situation induces an implemental mindset that promotes purchasing behaviour (Chandran & Morwitz, 2014). The resulting implemental mindset is found to compromise an individual's ability to properly perceive the cost and benefits associated with the product. Similarly, Büttner et al. (2013) demonstrated that customers exhibiting a task focused orientation are more likely to display cognitive procedures associated with an implemental mind-set. Other scenarios may also prime these mindsets.

Lee and Ariely (2006) provide evidence that customers' geographic proximity to a retail environment can dictate the mindset they are likely to exhibit. They formulate a two-stage "shopping goals theory" whereby shopping goals become more concrete as the consumer progresses through the shopping experience. For example, shoppers demonstrate more abstract (concrete) shopping goals when they are located inside (outside) a retail environment. This has implications for conditional coupon use because these mindsets determine how consumer approach the decision making process. Specifically, consumers inside (outside) a grocery store are likely to exhibit an implemental (deliberative) mindset and are thus less (more) likely to be influenced by coupons that offer conditional discounts. More recently, researchers have demonstrated that an implemental mindset can reduce resistance and promote purchasing behaviours. Specifically, research suggests that an implemental mindset may promote consumer spending by creating "shopping momentum" (Dhar et al., 2007).

2.6.2. Shopping Momentum

“Shopping momentum” is a state in which a consumer demonstrates a predisposition to keep spending after the initial purchase of a “driver item” (Dhar et al., 2007). The researchers demonstrated that the shopping momentum effect can be attributed to an implemental mindset (Dhar et al., 2007). The research suggests that the very act of making a purchase induces an implemental mindset which predisposes individuals to make further purchases. The shopping momentum effect was found to increase the accessibility of implemental thoughts. In addition, it manifested itself independently of any mood effects. Interestingly, the research revealed that the shopping momentum effect could be countered by introducing “friction”. Specifically, when participants were provided with two sources of finance to buy products (rather than one) the shopping momentum effect disappeared. This finding suggests that a secondary source of income disrupts the generation of shopping momentum by breaking the implemental mindset that drives it. In sum, Dhar et al. (2007) concluded that making a purchase can induce further purchasing behaviours. However, related research by Xu and Wyer (2007) contradicts the results of Dhar et al. (2007). Worryingly for consumers, Xu and Wyer (2007) suggest that a “which-to-buy” mindset can prime purchasing behaviour even without the necessity of a purchase.

2.6.3. Which-to-Buy Mindsets

The which-to buy mindset increases purchase intention regardless of purchase decision revocability or similarities between products. Xu and Wyer (2007) demonstrated that consumer resistance may be eroded by simply asking an individual to express a preference between two products. In their first study, participants were

exposed to descriptions of two products (computers). In one condition, participants were firstly asked to decide whether they would be willing to purchase one of the products. Participants in the second condition were asked to express a preference for one of the products before being asked if they were willing to make a purchase. Participants in both conditions were told that their purchasing decisions were either revocable or irrevocable. The results indicated that participants in the choice revocability condition exhibited reduced purchase intentions compared to participants in the choice irrevocability condition. Participants in the preference-first condition reported higher purchase intentions than participants in the decision-first condition. Furthermore, this trend was found to be stronger among those who were told their decision was irrevocable. The product ratings were also higher among participants in the preference-first condition.

In Study 2, participants in the preference-first condition were again asked to state their preference between one of two computers. In this study, participants were not required to provide evaluations of the computers but instead asked to indicate their purchase intentions. Participants could also elect to defer their decision. Those in the decision-first condition were simply asked if they would be willing to purchase the computer. Later, in an ostensibly unrelated study all participants were asked to choose between one of two vacation packages being advertised. The results indicated that participants in the preference-first condition were more likely to choose a vacation package (68%) than participants in the decision-first condition (42%). The results also showed that those in the decision-first condition were equally likely to report purchase intentions in task two, regardless of whether they indicated a positive or negative purchase decision in the first task. This finding conflicts with those of

Dhar et al. (2007) who attribute the shopping momentum effect to the generation of an implemental mindset primed by affirmative purchase decisions.

Study 3 adopted the same two task procedure that was used in Study 2. However, in this study, participants in the preference-first condition were asked to report their final purchase decision (choose a computer or defer the decision). In Study 2, participants had not been obliged to make a purchase decision. Participants in the decision only condition were first asked if they wished to purchase one of the computers or if they wished to defer the decision. All participants were then asked how much they liked the computer before undertaking the second, ostensibly unrelated task of choosing between two package holidays. The results indicated that those in the preference first condition were again more likely to make a purchase decision in domain 2 compared to participants in the decision-first condition. Furthermore, participants in the preference-first condition perceived the computer more favourably when the purchase decision was made to buy one of the computers. The results also indicated that participants in the preference first condition were more likely to buy the vacation in domain 2 when compared to participants in the decision first condition. These results suggest that making a purchase decision or simply expressing a preference between two products are both likely to increase future purchase intentions. The results extend the work of Dhar et al. (2007) by showing that an actual purchase is not necessary in order to induce increased purchasing behaviour. Study 4 demonstrated that the which-to-buy mindset influences actual buying behaviour. Participants in the experimental conditions were asked to express a preference between pairs of different products and services. Those in the control condition did not undertake this task. All participants were subsequently offered the

opportunity to purchase chocolate at half price. Those in the experimental conditions were found to be more likely to buy the chocolate (28%) than participants in the control condition (6%). Interestingly, later research by the authors suggests that simply comparing two products (without stating a preferred choice) is sufficient to reduce consumer resistance (Xu & Wyer, 2008).

2.6.4. Comparative Mindsets

Xu and Wyer (2008) demonstrated that asking participants to make comparative judgements induces a “comparative” mindset that increases purchase intentions. In one study participants were asked to review two vacation packages and then asked to choose the holiday they preferred or disliked more. Participants in the control condition did not partake in this first task. In an ostensibly unrelated study all participants were then asked to imagine a scenario in which they were planning to buy a computer. They were then shown adverts for two computers. Participants were told that they could indicate which computer they would purchase or alternatively, they could defer their decision. The results revealed that participants who had compared two products were more likely (73%) to make a purchase than participants in the control condition (50%). Similar results were found in a second study in which participants were either asked to compare the different physical attributes among pairs of animals (e.g. weight, eyesight etc.) or to simply to express a personal preference for one animal in each pair of animals they were shown. Those in the control condition did not undertake this task. All participants then completed the same computer decision task used in Study 1. Purchase intentions among participants who compared the attributes of pairs of animals (68%) and the purchase intentions among

participants who decided on their preferred animal (64%) were significantly higher than those observed among participants in the control condition (40%). This finding suggests that it is the act of comparison and not the act of expressing a preference that induced the comparative mindset and resulting reduced resistance. A third study employed the same design as Study 2 except in this instance participants were asked to choose between two potential dating partners rather than between two computers. Participants also had the option to refuse both potential dating partners. The results revealed that 75% of participants who were asked to express a preference (for one of the animals in each pair) later choose a dating partner. Similarly, 70% of participants who simply compared the physical attributes of the animals chose a dating partner. However, the number of participants willing to choose a dating partner in the second task was significantly lower among participants in the control condition (47%). In a final study, participants in the experimental conditions were asked to identify similarities between random pairs of objects in four different domains. The results again indicated that participants in the experimental conditions were subsequently more likely to express a willingness to buy a computer (85%) than participants in the control group (50%).

2.6.5. Ego Depletion and Mindsets

“The basic premise of resource depletion (also termed “ego depletion”) is that self-control processes such as actively responding to influence attempts, exercising self-control, or using willpower require resources that are finite: hence, the active self can become depleted” (Fennis & Janssen, 2010; p. 238). Muraven, Tice and Baumeister (1998) found that trying to ignore distractions draws from an individual’s

limited reserve of will power. Indeed, the research suggests that any action that necessitates the exertion of willpower is likely to drain self-control resources and induce “resource depletion”. The effects of resource depletion have long been indirectly acknowledged.

“It is a profoundly erroneous truism, repeated by all copy-books and by eminent people when they are making speeches, that we should cultivate the habit of thinking of what we are doing. The precise opposite is the case. Civilization advances by extending the number of important operations which we can perform without thinking about them. Operations of thought are like cavalry charges in a battle-- they are strictly limited in number, they require fresh horses, and must only be made at decisive moments” (Whitehead, 1911; p. 61).

The depletion of these reserves undermines an individual’s future self-control by making the individual differentially more (less) sensitive to affective (cognitive) decision criteria. For example, resource depletion reduces resistance and makes individuals more vulnerable to a wide variety of compliance gaining (Dolinski, Ciszek, Godlewski, & Zawadzki, 2002; Janssen, Fennis, Pruyn, & Vohs, 2008) and persuasive communications (Burkley, 2008; Wan, Rucker, Tormala, & Clarkson, 2010; Wheeler, Briñol, & Hermann, 2007) by promoting a greater reliance on heuristics during message processing (Janssen et al., 2008). Interestingly, Burkley (2008) demonstrated that attempting to resist highly persuasive appeals can induce resource depletion. Burkley exposed student participants to a discrepant message (proposal to shorten the summer holidays to one month) which was either personally relevant (being introduced in two years’ time) or not personally relevant (being introduced in ten years’ time). Predictably, participants exposed to the personally

relevant message resisted the message more robustly and rated the proposition less favourability than participants exposed to the non-personally relevant proposition. More importantly, individuals who exhibited the greatest resistance also exhibited the greatest resource depletion effects. Specifically, participants who resisted the message were found to be less persistent in a subsequent puzzle solving task. Study 2 and Study 3 demonstrated that exerting self-control (Study 1: hand grip task, Study 2: thought suppression task) subsequently made individuals less resistant to a moderately discrepant message. Interestingly, a fourth study demonstrated that the resistance reducing effects of resource depletion were only evidenced when individuals resisted strong counter-attitudinal messages. Resource depletion had no effect on resistance levels when the counter-attitudinal messages contained weak arguments. However, Wheeler, Brinol, and Hermann (2007) suggest that depleted and non-depleted individuals are equally persuaded by strong arguments. Depleted participants were found to be significantly more persuaded by weak arguments than non-depleted participants. While non-depleted participants produce more (less) favourable thoughts when they read strong (weak) arguments, depleted participants did not distinguish between strong and weak arguments. The research showed that depleted and non-depleted individuals generated a similar number of thoughts which suggests that the extent of message elaboration does not mediate this effect.

In recent years, researchers have begun to investigate how mindsets regulate ego depletion and vice versa. For example, Bruyneel and Dewitte (2006) suggests that exercising self-control induces a “narrow” mindset. This mindset makes individuals less likely to attend to peripheral stimuli, more likely to arrange objects in narrow categorisations and predisposes individuals to using more concrete language.

Bruyneel and Dewitte (2012) replicated some of these results and demonstrated that resource depleted individuals are more likely to provide lower estimates of egocentric spatial distances (i.e. estimates of distances to known local locations). These studies provide converging evidence to suggest that self-regulation promotes the use of low level construal when making evaluative judgements. Other research has found that switching between mindsets (e.g. from an abstract mindset to concrete mindset) may also exhaust regulatory resources and induce resource depletion (Hamilton et al., 2011). The authors hypothesised that switching between mindsets exhausts an executive function that relies upon the same psychological resources used in self-regulation. Across five studies the researchers demonstrated that switching mindsets depleted cognitive resources and subsequently adversely influenced future decision making. Interestingly, research suggests that mindsets may influence how individuals allocate cognitive resources.

Bosmans, Pieters and Baumgartner (2010) found that a “get ready mindset” is induced when individuals anticipate a demanding future task. The research suggests that simply thinking about a future task may activate additional cognitive resources that are subsequently misappropriated to the current unrelated task. Interestingly, the resource allocating abilities of this mindset are determined by the individual’s ability to mentally separate the current task from the future task. Specifically, when an individual’s ability to separate a task is low, the misappropriation of cognitive resources is higher and vice versa. The misappropriation of cognitive resources is an unhelpful consequence of the “get ready mindset”. Various studies have offered remedies for resource depletion; personal performance monitoring (Wan & Sternthal, 2008), prayer (Frieze & Wänke, 2014) or boosting energy levels by eating glucose

(Gailliot et al., 2007). However, recent research suggests that mindsets may also have a role to play in regulating the effects of resource depletion. While ego depletion may induce mindsets that compromise resistance, the opposite is also found to be true; mindsets can attenuate the effects of resource depletion. Walsh (2014) demonstrated that goal priming may be used to prime resistance which can offset the effects of ego depletion. Specifically, Walsh (2014) demonstrated that individuals who were primed with self-control goals were subsequently more likely to exhibit self-control and were also less likely to be adversely affected by an ego depletion task. Similarly, Fransen and Fennis (2014) found that implicit resistance strategies can outperform explicit resistance strategies because they offer the same resistive protection without the same outlay in cognitive resources. The following section discusses mindsets which increase consumer resistance rather than undermine it.

2.7. The Defensive Consumer: Fortifying Consumer Resistance

Marketing activities and advertising campaigns are designed to induce persuasion and reduce resistance (Knowles & Linn, 2004). However, over the last 70 years marketing researchers have preoccupied themselves by measuring personality traits and cognitive processes that influence persuasion (for a review see Brinol & Petty, 2004). In contrast, measurably less research has explored how individuals resist persuasion. This research imbalance is perhaps indicative of the marketer's vested interest in persuasion rather than resistance. However, from a consumer perspective, resistance is an especially important topic.

Research suggests that individuals spontaneously accept the implications of a message in the course of comprehending it (Gilbert, 1991). Thus, it must follow that

resisting a persuasive message requires defensive motivation that allows individuals to contest the default position of message acceptance. Overcoming the hardwired response of message acceptance is of vital importance to consumers' long term welfare. The ability to protect oneself from persuasive attacks becomes especially important when confronted by manipulative or deceptive marketing attempts. The four faces of resistance are: reactance, distrust, scrutiny and inertia (Knowles & Linn, 2004; p.7).

"There's a sucker born every minute" (Anon)

This infamous quote is commonly attributed to businessman, P.T. Baranum. While the exact origins of the quote remain in doubt¹ there is less doubt that the quote's derogatory sentiment stirs unease among consumers. After all, consumers are "goal driven agents" that may pursue a wide variety of shopping related goals (Lee & Higgins 2009; p. 319). The overarching goal to avoid deception and deceit is a primary goal that is likely to influence the enactment of all other subordinate consumer goals (Vohs, Baumeister, & Chin, 2007).

The pervasive consumer fear of being duped or "being a sucker" is known as "Sugrophobia" (Vohs et al., 2007). Sugrophobia activates self-protection instincts that allow consumers to defend their egos and their wallets against attack (Cohen, Aronson, & Steele, 2000; Vohs et al., 2007). This deeply engrained fear motivates consumers to assess the bona fides of persuasive messages. Avoiding deception and

¹ https://en.wikipedia.org/wiki/There%27s_a_sucker_born_every_minute, [25.10.14]

thwarting manipulative influences is an ongoing task that consumers undertake on a daily basis. In order for consumers to achieve this important goal they must consult their “persuasion knowledge” (Friestad & Wright, 1999).

2.7.1. Persuasion Knowledge (PK)

Persuasion Knowledge (PK) represents the set of core beliefs and intuitive theories which individuals use to “cope” with persuasion attempts (Friestad & Wright, 2013). More formally defined, PK refers to “consumers theories about persuasion and includes beliefs about marketers’ motives, strategies, and tactics; effectiveness and appropriateness of persuasion tactics; psychological mediators of tactic effectiveness; and ways of coping with persuasion attempts” (Campbell & Kirmani, 2000; p. 69). PK arms individuals with an interpretive set of beliefs designed to protect them from the voluminous barrage of persuasive attacks they encounter each day.

Wright (1986) dubbed PK the “schemer schema” because it allows consumers to detect manipulative or deceptive elements within persuasive appeals. It also informs consumers’ response strategies when they are the “target” of the persuasive attack. A consumer’s ever expanding catalogue of transactional encounters ensures that an individual’s PK is continually being updated and refined as they age. PK is also the product of folk knowledge that is constantly developing at a cultural/societal level.

Informed by personal experience and societal inputs, an individual’s PK evolves over time (Friestad & Wright, 1994). An individual’s sensitivity to ulterior motives changes as a function of age (for a review see Xie & Boush, 2011). The “soft whispering of Mother Culture” starts at an earlier age and continues throughout

adolescence and adulthood (Friestad & Wright, 1999; p. 139). For example, children begin to develop the ability to critically analyse persuasiveness communications between the ages of seven and eleven years (John, 1999). While culture plays a large role in the knowledge diffusion process, PK remains a uniquely, person-specific resource. Indeed, PK is “one of the most valuable socioeconomic resources” available to individuals (Friestad & Wright, 1999; p. 185). Consequently, any cognitive phenomenon (e.g. mindset) that comprises the activation of PK poses a threat to consumers. Consumers who do not have recourse to their PK are less likely to be able to detect “manipulative intent”.

2.7.2. Manipulative Intent

In order to avoid “being a sucker”, customers need to be sensitive to “Manipulative Intent” (MI) within persuasive communications (Wentzel, Tomczak, & Herrmann, 2010). Inferences of Manipulative Intent are defined as “as consumer inferences that the advertiser is attempting to persuade by inappropriate, unfair, or manipulative means” (Campbell, 1995; p. 228). Various studies have demonstrated that PK activation aids in the detection of MI within marketing communications; e.g. negative comparisons (Jain & Posavac, 2004), biased endorsers (Kirmani & Zhu, 2007), rhetorical questions (Ahluwalia & Burnkrant, 2004), flattery (Campbell & Kirmani, 2000), cause-related marketing (Szykman, Bloom, & Blazing, 2004), advocacy advertising (Menon & Kahn, 2003) and borrowed-interest creative devices (Campbell, 1995). The detection of MI induces message resistance (Kirmani & Zhu, 2007).

Research has demonstrated that prevention (promotion) focused individuals do not exhibit any difference in their sensitivity of MI when an advert's MI salience is low or high (Kirmani & Zhu, 2007). Specifically, prevention-focused individuals are likely to detect (not detect) MI when MI is high (low). Similarly, promotion-focused individuals are likely to detect (not detect) MI when MI is high (low). However, MI detection rates differ between these groups when MI salience is made moderately salient. Under such conditions, prevention-focused individuals are more likely to detect the MI than promotion-focused individuals. These findings suggest that when the components of an advert are ambiguous, prevention (promotion) focused individuals are more (less) likely to perceive the advert as manipulative. To date, few studies have tested if motivational orientation moderates an individual's ability to detect MI. What's more, few studies have investigated the specific resistance strategies that individuals with different regulatory/motivational orientations employ.

Ahluwalia (2000) demonstrated that individuals who are committed to their attitude are likely to use a wide variety of resistance strategies to protect their views. However, two particular strategies are especially important. Research suggests that counterarguing and bolstering are the most widely used and the most effective resistance strategies employed by consumers (Zuwerink Jacks & Cameron, 2003). Consequently, both defensive strategies are central to consumer welfare and autonomy. Importantly, recent research suggests that these defensive strategies can be activated outside of conscious awareness. Specifically, bolstering and counterarguing mindsets have been found to decrease (increase) resistance thereby increasing (decreasing) persuasion (Xu & Wyer, 2012).

2.8. Active Resistance: Counterarguing and Bolstering

Counterarguing. An individual engages in counterarguing when they “refute the validity of the arguments presented” (Xu & Wyer, 2012; p. 921). This resistance strategy is particularly effective at boosting resistance. However, counterarguing is effortful and demands attentional focus. If attentional focus cannot be committed, then an individual’s ability to counterargue is compromised. For example, research has shown that distractions can inhibit the generation of counterarguments (Festinger & Maccoby, 1964; Keating & Brock, 1974; Osterhouse & Brock, 1970; Petty, Wells, & Brock, 1976). These studies showed that the resulting difficulty in generating counterarguments undermined resistance because individuals are forced to rely upon heuristics and peripheral cues during decision making. Osterhouse and Brock (1970) showed that increased “yielding” to the propaganda messages (counter-attitudinal messages on college policy) was due to the inhibition of counterarguing processes resulting from the distractions (flashing lights). In the study, student participants were asked to listen to a message advocating an increase in college tuition fees. However, those in the distraction condition were also asked to monitor a panel of light and to immediately call out the number of the light if it flashed. The results showed that distracted participants exhibited a decreased ability to generate counterarguments and were consequently less resistant to the discrepant message. The thought disruption hypothesis formulated by Petty et al. (1976) suggests that distraction inhibits an individual’s dominant cognitive response to a persuasive communication. Distractions were found to comprise an individual’s ability to discern strong arguments from weak arguments thereby increasing the persuasiveness of weak arguments and decreasing the persuasiveness of strong arguments (Harkins & Petty, 1981; Petty et al., 1976).

Research also suggests that distraction induces individuals to pursue hedonic goals by undermining their ability to consider the long term implications of their actions (Shiv & Fedorikhin, 1999). This is perhaps why advertisers so often use humour in adverts. It is estimated that between 30% - 42% of all adverts in the U.S. use humour (Markiewicz, 1974; Weinberger, Spotts, Harlan, Campbell, & Parsons, 1995). In 2007, approximately \$45 billion was spent on producing humorous ads in the U.S. (TNS Media Intelligence, 2008). Strick, van Baaren, Holland, & van Knippenberg, (2009) demonstrated that using humour in an advert can prevent the generation of negative brand associations while promoting the generation of positive brand associations. The authors found that the cognitively distractive properties of humour are more effective at reducing resistance than non-distracting neutral or positive stimuli.

Bolstering. Bolstering occurs when individuals reaffirm their beliefs by generating supporting arguments for these beliefs when faced with counter-attitudinal information (Knowles & Linn, 2004). This may involve the selective attention and recall of information that supports their own position (Lewan & Stotland, 1961; Lydon, Zanna, & Ross, 1988). Consequently, a bolstering defensive strategy is likely to be employed when the individual's knowledge deficit on the topic prevents the generation of strong counterarguments to defend their beliefs (Knowles & Linn, 2004).

Counterarguing and bolstering are the most potent defensive strategies in a consumer's defensive arsenal but this superior defensive protection comes at a cognitive cost. Both counterarguing and bolstering strategies are more cognitively taxing than weaker defensive strategies such as source derogation (Knowles & Linn,

2004). However, recent research has discovered that individuals may be primed with bolstering and counterarguing mindsets which outsource the defensive duty to non-conscious processes (Xu & Wyer, 2012). The focus of the current research is to explore how active resistance processes such as bolstering and counterarguing may occur at a non-conscious level. The recent discovery of bolstering and counterarguing mindsets poses intriguing questions regarding consumer resistance.

2.9. Bolstering and Counterarguing Mindsets

Recent research provides the first evidence of behavioural mindsets influencing persuasive communications (Xu & Wyer, 2012). A behavioural mindset occurs when a cognitive or motor response in one situation, increases the likelihood of this response being ‘carried over’ into a conceptually similar, yet unrelated future situation (Xu, 2010). Xu and Wyer (2012) found that inducing participants to generate bolstering (counterarguing) thoughts served to prime the enactment of these cognitive procedures which favourably (adversely) affected assessments of subsequently encountered adverts. Put simply, a “counterarguing” mindset was found to increase resistance while a “bolstering” mindset was found to reduce resistance. While bolstering may be used as a resistance strategy, in this series of studies the authors demonstrated that bolstering cognitive procedures can reduce resistance when they are carried over and applied to a target stimulus rather than mobilised as a defensive strategy.

Xu and Wyer (2012) used a procedural priming procedure to activate counterarguing and bolstering mindsets (Study 1, Study 2 respectively). Specifically, participants in the bolstering, counterarguing and control conditions were induced to

write supporting, opposing or neutral statements in response to favourable, unfavourable and neutral propositions respectively. For example, participants in the counterarguing (bolstering) condition were asked to give their opinion on the proposition ‘_____ University should increase (decrease) college fees next year’. Participants were then asked to evaluate an advert in an ostensibly unrelated study. The research demonstrated that participants in the bolstering condition subsequently exhibited significantly more favourable attitudes towards an unrelated advert (i.e. advert persuasiveness and advert appeal) than participants in the control condition and participants in the counterarguing condition. Participants in the bolstering condition also rated the product featured in the advert more favourably (i.e. attractiveness of product) than participants in the other conditions. The opposite results were observed among participants in the counterarguing condition who exhibited less favourable attitudes towards the advert and the product being advertised. A thought listing task revealed that the valence of generated thoughts mediates these mindsets. Specifically, participants in the bolstering (counterarguing) conditions subsequently generated more positive (negative) thoughts compared to participants in the control condition when making subsequent evaluations of target stimuli. Interestingly, Xu and Wyer (2012) found that the bolstering and counterarguing mindsets only influence behaviours which would not normally occur in the absence of the mindset. For example, in Study 1, a counterarguing mindset adversely affected participants’ evaluations of an advert featuring a positive target stimulus (hotel). However, the counterarguing mindset did not adversely affect evaluations of the advert in Study 2 which featured a negative target stimulus (unappetising, exotic food). The reverse pattern was observed among participants

primed with a bolstering mindset in both studies. These results may be explained by the fact that individuals spontaneously accept the implications of a message in the course of comprehending it (Gilbert, 1991). When an individual encounters a message where little elaboration is required (because the person makes a quick initial judgement) then a mindset that is congruent with this message will have little effect. Hence, if a message spontaneously leads recipients to refute its implications, inducing a counterarguing mindset has little impact (and vice versa). Xu and Wyer (2012) suggest that bolstering and counterarguing mindsets only influence behaviours which would not normally occur in the absence of the mindset. For example, Xu and Wyer (2012; Study 1) found that a counterarguing mindset adversely affected participants' evaluations of an advert featuring a positive target stimulus (hotel). However, the counterarguing mindset did not adversely affect evaluations of the advert in Study 2 which featured a negative target stimulus (unappetising, exotic food). The reverse pattern was observed among participants primed with a bolstering mindset in both studies. Specifically, the bolstering mindset positively affected participants' evaluations of a negative target stimulus (unappetising, exotic food) but did not positively affect evaluations of a positive target stimulus (hotel). It appears the effects of these behavioural mindsets are only observable when the person's initial reaction to the target stimulus is incongruous with the mindset.

Xu and Wyer's (2012) third study demonstrated that a counterarguing mindset may actually increase persuasion (i.e. decrease resistance) when an individual encounters a strong persuasive communication that is difficult to counterargue against. The researchers demonstrated that participants who were primed with a counterarguing mindset evaluated a highly persuasive charitable appeal more

favourably than those in the control condition and those in the bolstering condition. The results revealed a main effect of priming regardless of whether the charity was well known or unknown. Furthermore, participants in the counterarguing condition were more willing to donate to the charity than participants in the control condition and bolstering condition. In this study, participants in the counterarguing condition did not generate more negative thoughts than participants in the other conditions. These results suggest that participants who failed in their attempts to effectively counterargue the charity appeal were forced to evaluate it more favourably as a result.

In their final study, Xu and Wyer (2012) demonstrated that bolstering and counterarguing mindsets may be induced incidentally. Simply watching a political speech (debate) was found to prime bolstering (counterarguing) mindsets respectively. Specifically, politically partisan participants who watched a speech of a politician they supported were primed with a bolstering mindset. Similarly, a bolstering mindset was induced when politically partisan participants watched a political debate involving the politician they supported. However, when politically partisan participants watched a speech of the politician they opposed, a counterarguing mindset was induced. The study also found that non-partisan participants were primed with a bolstering mindset when they watched a political speech but a counterarguing mindset when they watched a political debate. Having viewed the political speech or debate, participants watched a video of the President of the Toyota car company publically apologising for a recent product recall. The results indicated that participants in the counterarguing condition were more likely to give unfavourable evaluations of Toyota than participants in the bolstering and control conditions. In line with Study 1 and Study 2, the bolstering mindset did not increase

evaluations of Toyota since it was already perceived as a favourable brand. The study demonstrated that participants who had been incidentally primed with a counterarguing mindset expressed less confidence that Toyota could improve the safety of their cars when compared to participants in the control or bolstering condition.

2.10. Conclusion

The aim of this chapter is to highlight the malleable nature of consumer resistance. Resistance is both context-dependent and person specific. Importantly though, resistance is also regulated by mindsets that exert their influence outside of conscious awareness. While many studies have shown how mindsets can regulate persuasion, fewer studies have taken the consumer perspective and investigated how mindsets regulate resistance. Consequently, the recent discovery of bolstering and counterarguing mindsets by Xu and Wyer (2012) represents an important theoretical development.

Resistance may be defined as the ability to withstand a persuasion attempt (McGuire, 1964). Resistance is the most important element in the persuasion process (Knowles & Linn, 2004). Accordingly, mindsets that regulate consumer resistance are especially important phenomena. Given that counterarguing and bolstering strategies may be universally enacted across all persuasion scenarios and compliance gaining contexts, mindsets which influence these cognitive procedures are especially important. The findings of Xu and Wyer (2012) are theoretically important for a number of reasons. Firstly, the research demonstrates that behavioural mindsets can influence persuasive communications and can be easily activated. Indeed,

these mindsets can be activated incidentally. These findings lead to the worrisome realisation that consumers' self-protection goals may easily be compromised by forces outside of their conscious awareness. Importantly, the finding of Xu and Wyer (2012) may be distinguished from 'inoculation effects'. Inoculation effects occur when an individual demonstrates high resistance to a strong persuasive appeal as a result of having been previously exposed to a weaker version of the appeal (McGuire, 1964). However, the recent discovery of the 'counterarguing mindset' by Xu and Wyer (2012) significantly broadens the theoretical horizons of consumer resistance within the persuasion literature. Unlike inoculation effects, a counterarguing mindset exerts covert influence across domains. Perhaps more worrying, a bolstering mindset reduces resistance and circumvents the defences of the consumer. Bolstering and counterarguing mindsets are mediated by the valence of the thoughts they make cognitively accessible. Specifically, individuals in a counterarguing (bolstering) mindset generate more negative (positive) thoughts which adversely (favourably) affect subsequent evaluations of a target stimulus (Xu & Wyer, 2012). However, to the author's knowledge, no other research has yet explored potential moderators for these mindsets. Thus, the boundary conditions of these newly discovered mindsets warrant investigation.

Laran et al. (2011) suggest that "marketing needs a theory for priming effects" and calls for future research to investigate which marketing stimuli and tactics unconsciously influence consumer responses. Until recently, research that investigates how consumers resist marketing communications was relatively scarce. The voluminous literature on persuasion contrasts starkly with the comparatively modest number of studies that directly investigate resistance (Laran et al., 2011). This

knowledge deficit has provoked some academics to call for more research on non-conscious consumer resistance since “there is no clear definition of the meaning of unconscious resistance” (Fransen & Fennis, 2014; p. 928). This doctoral research answers the call for further research on this important topic. Counterarguing and bolstering mindsets have potentially wide-ranging implications for consumer protection and consumer welfare. The current research seeks to replicate the bolstering and counterarguing mindsets and to extend the work of Xu and Wyer (2012) by exploring potential moderators of these mindsets. The primary aim of the current research will be to test the hypothesis that an individuals’ motivational orientation moderates the carryover effects of these behavioural mindsets. If found to be true, the research will help identify individuals who are especially sensitive to these mindsets. This would make a valuable contribution to the scarce literature on behavioural mindsets. It would also make a contribution to the larger body of work within the fields of persuasion and resistance.

CHAPTER 3: MOTIVATIONAL ORIENTATION

Nature has placed mankind under the governance of two sovereign masters, pain and pleasure... it is for them alone to point out what we ought to do, as well as to determine what we shall do” (Bentham 1781/1988; p. 1).

3.1. Action Tendencies

Motivation may be defined as “the energization and direction of behaviour” (Elliot & Covington, 2001; p. 73). Historically, motivation has been categorised into two broad types; approach motivation and avoidance motivation. Indeed, “distinguishing approach motivation from avoidance motivation may be considered one of the oldest ideas in the history of thought about the behaviour of organisms” (Elliot, 2008 p .4). From protozoan to homo sapiens, approach and avoidance behaviours are part of the evolutionary heritage of all lifeforms (Schneirla, 1959). Without exception, all organisms move (literally or figuratively) towards positively perceived stimuli and away from negatively perceived stimuli (Carver, 2006). Indeed, across all phyla, organisms “survive” (i.e. avoidance behaviour) or “thrive” (i.e. approach behaviour) as a function of their predominant motivational orientation (Elliot, 2006). Research suggests that the complexity of approach and avoidance behaviours increases in complexity in tandem with the complexity of the life form (Elliot, 2006). Correspondingly, human beings exhibit the widest range of approach and avoidance behaviours observable in nature.

Ever since the Greek philosopher Democritus began to consider the merits of ethical hedonism, scholars have speculated on the fundamental driving forces behind

human behaviour. Indeed, “scholars have made use of the approach-avoidance distinction for well over 2000 years” (Elliot, 2008; p. 4). Pleasure and pain have remained central themes throughout the historical discourse on human motivation (Elliot, 2008). Indeed, pleasure and pain may be regarded as the “springs of action” that reinforce or inhibit behaviours which ultimately dictate evolutionary adaptive responses (James, 1890). As such, approach and avoidance motivation constitute the “building blocks of behaviour” (Carver, 2006; p. 105). Accordingly, motivational orientation provides the promise of a sturdy theoretical platform upon which to base psychological research. Indeed, it is particularly applicable to consumer domains which are characterised by positive and negative stimuli that dichotomise behavioural responses into approach and avoidance categories. Few other conceptual frameworks boast such widespread utility and theoretical reach. Motivation orientation lies at the very heart of our evolutionary lineage and directs our daily actions and interactions across the full gamut of consumer domains. It guides everyday consumer behaviours and presides over the perceptual processes that pre-empt them. The conceptual linkages between approach (avoidance) motivation and persuasion (resistance) are intuitive and have been substantiated by a large body of theoretical and empirical work. In the next sections I review studies on motivational orientation that provide the reader with clear evidence of these theoretical links. I also review the conceptually adjacent literature of self-regulation which provides compelling evidence in support of these links. Finally, I use Regulatory Fit Theory as an overarching theoretical framework to highlight the strong empirical evidence for “fit effects” or “congruency” effects. Fit effects are central to this research. The research hypotheses that are formalised in the next chapter are based on the principles that underpin fit effects.

3.2. Approach and Avoidance Behaviour

Human behaviour is derived from two distinct kinds of action tendencies: approach and avoidance behaviours (Carver, 2006). Sometimes approach and avoidance action tendencies are discussed in terms of motivations; appetitive and aversive motivation respectively (Davidson, 1998). Regardless of the terminology used there is little doubt that motivational orientation is an important concept that remains central to a wide range of psychological phenomena. Indeed, there has been a dramatic increase in the number of studies exploring the effects of motivational orientation in recent years (Eder et al. 2013). The authors document some 7998 studies published in 2010 which directly related to motivational orientation.

The Approach-Avoidance model provides a conceptual lens through which both the structure and function of self-regulation can be understood (Elliot, 2006). This motivational model finds its origins in the work of Eysenck (1967) who first proposed a link between extraversion (neuroticism) and positive (negative) affect. This research was later extended by Gray (1981; 1987) who postulated two primary neurological systems to explain why extraverts (neurotics) are differentially sensitive to reward (punishment) cues. Importantly, both lines of research are founded on the principle that human behaviour is regulated by positive or negative reinforcement. Based on extensive animal research, Gray's bi-dimensional model proposed two functionally independent, neurobiological systems; the Behavioural Activation System (BAS) and the Behavioural Inhibition System (BIS). Aversive motivation (i.e. avoidance motivation) is controlled by the behavioural inhibition system (Gray, 1981). Conversely, appetitive motivation (approach behaviour) is controlled by the behavioural activation system (Cloninger, 1987; Fowles, 1980). Both systems are

characterised by three levels; a neural level, a cognitive level and a behavioural level. The model outlines how the neural structures and brain activation patterns influence the cognitive responses that inform behaviours associated with approach and avoidance (Gable, Reis, & Elliot, 2000). The Behavioural Activation System (BAS) controls “approach” or “appetitive” motivation (Carver & White, 1994). BAS is also known as the Behaviour Facilitation System (Depue & Collins, 1999) or the appetitive motivational system (Davidson, 1998). The activation of BAS promotes positive feelings such as hope and happiness. BAS activation also makes individuals more sensitive to reward and non-punishment stimuli (i.e. positive reinforcement) (Carver & White, 1994). Gomez and Gomez (2002) found that BAS and impulsivity are linked to a tendency to process pleasant information.

In contrast, the Behavioural Inhibition System (BIS) controls “avoidance” or “aversive” motivation. The activation of the BIS promotes negative feelings such as anxiety and fear (Carver & White, 1994). BIS activation also makes individuals more sensitive to loss and punishment cues (Marrero, Gámez, & Díaz, 2008). Indeed, BIS and anxiety are both linked to a tendency to process unpleasant information (Gomez & Gomez, 2002). Individuals exhibiting high BIS scores also exhibit a stronger preference for familiarity (Quilty, Oakman, & Farvolden, 2007). The positive (negative) feelings associated with approach (avoidance) behaviours regulate how individuals move toward (move away from) goals (anti-goals) (Carver & White, 1994; Gray, 1990). Carver and White (1994) created the BAS/BIS scales to measure an individual’s dispositional sensitivity to BAS and BIS activation. The BAS/BIS measure is a 20 item, self-report questionnaire that consists of 4 subscales. BAS is measured by three separate subscales which measure Reward Responsiveness, Drive

and Fun Seeking. BIS is measured using a fourth subscale; BIS (Carver & White, 1994). The concepts of BIS and BAS are critical to the present study. As previously discussed, mindsets result as a consequence of goal directed, cognitive procedures that carryover into unrelated domains. However, an individual's receptivity to different goals is ultimately dictated by their motivational orientation. Motivational orientation provides "the building blocks of behaviours" because it guides both conscious and non-conscious goal pursuit processes (Carver, 2006).

3.2.1. Motivational Orientation and Personality

Motivational orientation has been linked to generic and cultural components that determine psychological traits (Carver 2006; Elliot & Thrash 2002). Indeed, extensive research has mapped the interdependencies between motivational orientation and personality traits. For example, research suggests that BIS and BAS are related to neuroticism and extraversion respectively (Corr, 2004). Indeed, some researchers have even operationalised approach and avoidance motivation as extraversion and neuroticism respectively (Pickering, Corr, & Gray, 1999; Rusting & Larsen, 1997). Individuals exhibiting high (low) avoidance motivation (as measured by neuroticism) are found to be more (less) sensitive to negative mood inductions (Larsen & Ketelaar, 1991). Conversely, participants with high (low) approach motivation (as measured by extraversion) are found to be more (less) sensitive to positive mood inductions and thus experience more (less) positive affect (Larsen & Ketelaar, 1991).

Individuals exhibiting high BIS sensitivity are especially likely to dwell on negative experiences in the past (Gable et al., 2000). These avoidance orientated

individuals also spend more time and attention attending to negative stimuli in the present environment when compared to individuals exhibiting low BIS scores (Gable et al., 2000). Indeed, individuals with high BIS scores tend to exhibit greater levels of fear than individuals with low BIS scores (Dillard & Anderson, 2004). Specifically, Dillard and Anderson (2004) exposed participants to a fear appeal relating to flu vaccination. Participants were then asked to indicate how frightening they found the message and how likely they were to seek vaccination. As predicted, individuals exhibiting high BIS scores were found to be relatively more sensitive to the fear appeal (Dillard & Anderson, 2004). Similarly, Thake and Zelenski (2013) demonstrated that individuals exhibiting high levels of neuroticism and high BIS scores are also more susceptible to feelings of fear and sadness.

In contrast, individuals exhibiting high BAS scores typically report more positive outlooks on life (Gray, 1990). Indeed, Dillard and Anderson (2004) found that, unlike BIS, BAS does not moderate the degree of fear that individuals experience. It should be noted however that using neuroticism and extraversion as proxy measures of approach and avoidance motivation is questionable considering that neuroticism and extraversion traits are not isomorphic (Pickering et al., 1999; Rusting & Larsen, 1997). The emotional susceptibility associated with different motivational orientations is due to the differential sensitivity to reward and punishment signals (Tellegen, 1985). Jorm et al. (1998) found that BIS was associated with negative affectivity and neuroticism while BAS was associated with positive affectivity and extroversion. Interestingly, the authors also found that BIS and BAS sensitivity changes over time and diminishes with age.

3.2.2. Motivational Orientation and Goal Pursuit

In recent years, much research has explored (non)conscious goal activation (e.g. Chartrand et al. 2008; Dijksterhuis et al. 2005; Dijksterhuis 2010; Custers & Aarts 2010; Marien et al. 2012). Motivational orientation and goals are inextricably linked. “A goal is a cognitive representation of a future object” and is a “proximal predictor of behaviour” because it “represent(s) the final component of the motivational process” (Elliot, 2006; p. 113).

The Hierarchical model of Approach/Avoidance motivation suggests that goals provide a directional function that inform approach and avoidance behaviours (Elliot, 2006). Goal pursuit involves having a goal, assessing your position with respect to it, and then taking steps to reduce the discrepancy between the goal and the current situation (Carver, 2006). The resulting discrepancy between a goal and the current position (the “error”) is experienced as affect. If the rate is below the criterion, negative affect arises. If the rate is at the criterion, the person is affect-free. If the rate exceeds the criterion, positive affect arises. Both the BAS and the BIS are controlled by feedback loops that moderate goal pursuit activities (Carver & Scheier, 2004; Larsen & Augustine, 2008; Larsen, Augustine, Prizmic-Larsen, Larsen, & Augustine, 2014). The behaviour activation system uses a discrepancy reducing feedback loop that works towards closing the gap between the goal and the current situation. Conversely, the behaviour inhibition system uses a discrepancy enlarging feedback loop to move away from anti-goals. In this situation goals are attained through avoidance, escape, or withdrawal (Carver, 2006). Interestingly, research suggests that approach motivation can induce feelings of anger and sadness when goal-directed behaviours fail to achieve the individual’s goals (Harmon-Jones, 2003).

Consumers are goal directed agents (Lee & Higgins, 2009). Accordingly, consumers are heavily influenced by their chronic motivational orientation which prescribes their shopping goals. Research suggests there are distinct differences in motivational orientation between male and female shoppers. Arnold and Reynolds (2012) found that 60% of the females (in their sample) exhibited high BIS scores. In contrast, 64% of men exhibited low BIS scores. Furthermore, while approximately 30% of male participants exhibited a high BAS/low BIS profile, only 18% of women exhibited this motivational makeup (Arnold & Reynolds, 2012). Other researchers report similar patterns in motivational orientation between genders. For example, Jorm et al. (1998) found that females exhibited higher BIS scores than males. In contrast, male participants tended to exhibit stronger BAS drive scores than their female counterparts. Interestingly though, the results also revealed that female participants exhibited higher scores on the BAS reward responsiveness subscale than their male counterparts. Nevertheless, it is high avoidance motivation rather than high approach/reward motivation that Arnold and Reynolds (2012) use as a basis for explaining females shopping behaviours. Specifically, the researchers argue that women often use hedonic shopping as a means of avoiding stressful situations. The authors speculate that stress prone, female shoppers may use retail therapy as a means of reasserting control in a safe environment.

Motivational orientation may be situationally primed by making associated goals salient (e.g. Friedman et al. 2001; Förster, Friedman, Özelsel, & Denzler, 2006). For example, Förster et al. (2006) asked participants to solve a maze puzzle in which a mouse is depicted at the centre of a maze. Participants being primed with approach motivation were asked to complete a maze puzzle in which the mouse is trying to

escape in order to gain the reward of cheese (i.e. approach motivation) pictured outside the maze. Participants being primed with avoidance motivation were presented with a similar maze puzzle. However, in this puzzle the mouse is attempting to flee the maze to escape death from an owl (i.e. avoidance motivation) depicted hovering over the maze. Those in the control condition were presented with the same maze and mouse scenario but in this condition neither approach (cheese) nor avoidance (owl) stimuli were present. Having completed the maze puzzle, participants then underwent a computer based test which assessed the speed at which they responded to a series of global (large) alphabetical letters that were constructed using smaller, local letters. The results suggest that participants in both the control group and the approach motivation group were faster to respond to global targets than local targets. An inverse result was found when participants were presented with local targets.

Approach (avoidance) orientated individuals place a high (low) relative value on the attainment of positive goals (Derryberry & Reed, 1994). Correspondingly, approach orientated individuals typically employ eager strategies to pursue positive outcomes (Gray, 1990). In contrast, avoidance orientated individuals typically employ vigilant strategies to pursue the avoidance of negative outcomes (Gray, 1990). These findings broadly correspond with those of Friedman and Forster (2000) who found that risk aversion is characterised by an increased reliance on analytical processes. The authors used an arm flexion/extension task as a means of prime approach and avoidance motivation using motor actions as the priming mechanism. Participants in the arm flexion (approach prime) condition were found to be less risk averse and more likely to use heuristics than participants in the arm extension (avoidance prime)

condition. Conversely, participants in the arm flexion group (avoidance prime) condition were more risk adverse and were more likely to use systematic information processing strategies. Furthermore, Förster et al. (2006) demonstrated that arm flexion (arm extension) induced the broadening (narrowing) of attentional scope and prompted the activation of more global (narrow) mental representations. For example, participants primed with an approach (avoidance) motivation were more (less) likely to find alternative solutions to anagrams and more (less) likely to focus on the global aspects of an image. Similarly, Gray (1990) demonstrated that individuals exhibiting high (low) BIS sensitivity were slower (faster) to shift their attention away from negative and unfamiliar stimuli. Conversely, individuals exhibiting high (low) BAS sensitivity are slower (faster) to shift their attention away from positive stimuli (Gray, 1990). Such attentional biases have also been evidenced in other studies. For example, Rusting and Larsen (1998) demonstrated that individuals with high BAS scores exhibited increased task performance when a stimulus was positive. However, no such increase in task performance was observed among these individuals when the stimuli were negative or neutral.

Kuschel, Förster and Denzler (2010) suggest that motivational orientation can guide cognitive processes by regulating knowledge accessibility. The authors demonstrated that approach (avoidance) motivation promotes (impedes) access to higher order information (e.g. contextual information, meaning etc). Approach and avoidance tendencies influence thought accessibility and have direct repercussions for how individuals interpret persuasive communications (e.g. Kirmani & Zhu, 2007). The next section will review how approach and avoidance tendencies inform self-regulation strategies and influence perceptual, behavioural and cognitive responses to

stimuli. As we shall see, not only does motivational orientation and regulatory orientation occupy much of the same theoretical ground, they both provide substantial evidence of “fit effects”.

3.3. Regulatory Orientation

Regulatory focus theory (RFT) provides an account of self-regulatory processes (Cesario & Higgins, 2008; Higgins, 1997; Idson, Liberman, & Higgins, 2000). Specifically, the theory postulates two regulatory orientations which seek to gain pleasure or avoid pain; promotion focus (i.e. opportunity-seeking) and prevention focus (i.e. risk avoiding) respectively. Individuals who exhibit a promotion (prevention) focus are found to be more (less) sensitive to the presence of positive outcomes (Shah, Higgins, & Friedman, 1998; Zhu & Meyers-Levy, 2003). Conversely, individuals who exhibit a promotion (prevention) focus are found to be less (more) sensitive to the presence of negative outcomes (Love, Staton, Chapman, & Okada, 2010). Grounded in self-discrepancy theory, RFT postulates that self-regulatory tendencies are instilled during childhood by cultural socialisation and parental influences (Higgins, Klein, & Strauman, 1985).

RFT asserts that “self-guides” direct goal pursuit behaviours (Cesario, Higgins & Scholer, 2008). Specifically, promotion-focused individuals view goals as “ideals”. Ideals manifest themselves as hopes, accomplishments needs and advancement needs. They may be pursued by employing “eager strategies” to approach gains (the presence of positives) and avoid non-gains (the absence of positives). Eager strategies seek to maximise the chances of reward and attainment. In contrast, prevention-focused individuals view goals as “oughts”. Oughts manifest themselves as responsibilities,

safety needs, and security needs. They may be pursued by employing “vigilant strategies” to approach non-losses (the absence of negatives) and avoid losses (the presence of negatives). Vigilant strategies seek to minimise losses or avoid errors. Consequently, prevention-focused individuals are found to exhibit a “conservative bias” (Crowe & Higgins, 1997). Vigilant strategies rely heavily upon external (i.e. environmental) knowledge while eager strategies rely heavily upon internal (i.e. person-specific) knowledge (Bless et al., 1992). Regardless, both promotion-focused individuals and prevention-focused individuals seek to satisfy approach and avoidance tendencies by approaching desired end states and avoiding undesirable end states (Higgins, 1997).

Regulatory focus is a state which may vary between different people (chronic regulatory focus) and within different contexts (momentary regulatory focus). Regulatory focus (RF) may be momentarily primed using situational primes such as maze solving puzzles (e.g. Zhang & Mittal, 2007) or self-primes (e.g. Aaker & Lee, 2001). Aaker and Lee (2001) demonstrated that simply asking individuals to imagine themselves in a winning (losing) scenario primes a promotion (prevention) regulatory orientation. However, while a RF orientation may be made temporarily accessible by priming manipulations, all individuals naturally exhibit one predominant regulatory orientation. This chronic regulatory orientation may be assessed using a variety of instruments (for a review see Haws et al. 2009). The Regulatory Focus Questionnaire (RFQ) remains the most commonly used measure (Higgins et al. 2001). Much research has investigated how regulatory orientation influences perceptual, cognitive and behavioural processes both inside and outside consumer domains (Avnet & Higgins, 2006).

3.3.1. Regulatory Orientation and Cognition

RF predicts the cognitive strategy an individual is likely to employ during goal pursuit (Crowe & Higgins, 1997; Friedman & Förster, 2001). For example, similar to avoidance orientated individuals, prevention-focused individuals exhibit strong risk aversion tendencies (Idson et al., 2000). Accordingly, prevention-focused individuals employ “vigilant strategies” to avoid errors and minimise potential losses. Vigilant strategies thus promote a “conservative bias” which predisposes prevention-focused individuals to making “errors of omission” (Crowe & Higgins, 1997; Friedman & Förster, 2001). Conversely, promotion-focused participants are more likely to employ eager strategies that seek to approach goals and maximise rewards. Eager strategies predispose promotion-focused individuals to making “errors of commission” (Crowe & Higgins, 1997; Friedman & Förster, 2001). Consequently, prevention (promotion) focused individuals engage in more careful (risky) decision making (Crowe & Higgins, 1997; Friedman & Förster, 2001). Interestingly, promotion-focused individuals exhibit higher levels of creativity during decision-making (Friedman et al., 2001) and employ more flexible problem-solving strategies (Lieberman & Idson, 1999). By contrast, prevention-focused individuals are more likely to adopt a less risky, “keep the status quo” approach to problem solving (Lieberman & Idson, 1999). Research suggests that individuals tend to selectively process information that is congruent with their regulatory orientation when dealing with a high information load (Yoon, Sarial-Abi, & Gürhan-Canli, 2012). Specifically, the authors demonstrated that promotion (prevention) focused individuals assign a greater relative importance to positive (negative) product information under high information load. Consequently, promotion-focused individuals generate higher brand evaluations than prevention-

focused individuals under high information load conditions. The opposite is also true. Prevention-focused individuals assign a greater relative importance to positive information under low load conditions. Consequently, prevention-focused individuals generate relatively higher brand evaluations under low load conditions than promotion-focused individuals (Yoon et al. 2012). There is also evidence to suggest that RF may differentially influence an individual's ability to deal with distractions. Freitas and Higgins (2002) demonstrated that prevention-focused individuals outperformed promotion-focused individuals in cognitive tasks (i.e. maths puzzles) when distractions (i.e. distracting video clips) were present. No differences in task performance between regulatory foci were detected when distractions were removed. This suggests that prevention-focused individuals are better able to exert self-control over their cognitive resources in the presence of distractions. Indeed, prevention-focused individuals reported greater enjoyment of the tasks when they had to resist distractions than promotion-focused individuals. The results suggest that prevention-focused individuals have a cognitive advantage over promotion-focused individuals within distracting environments (Freitas, Liberman, & Higgins, 2002). However, recent research suggests that promotion-focused individuals may be better equipped to resist temptations. Dholakia et al. (2006) demonstrated that while promotion-focused individuals feel relatively more drawn to tempting stimuli than prevention-focused individuals, they were also more efficient at resisting temptations. The researchers concluded that the vigilant strategies utilised by prevention-focused individuals require significant cognitive resources and self-control. By contrast, the eager strategies utilised by promotion-focused individuals were found to be more economical and required less willpower to enact. Simply put, promotion-focused

individuals were less likely to become resource depleted than prevention-focused individuals. Consequently, promotion (prevention) focused individuals were less (more) vulnerable to tempting stimuli. However, other research suggests that it is regulatory fit rather than an individual's regulatory orientation that ultimately determines their ability to deal with temptations (Hong & Lee, 2008).

3.3.2. Regulatory Orientation and Perception

Regulatory focus is found to influence how individuals perceive persuasive communications and product offerings. For example, prevention-focused individuals perceive loss framed messages to be more persuasive while promotion-focused individuals perceive gain framed messages to be more persuasive (Lee & Aaker, 2004). Regulatory orientation also influences the effectiveness of marketing messages for different product types. For example, Micu and Chowdhury (2010) found that promotion-focused messages are more effective (generate more positive emotions, boost recall and increase persuasion) than prevention-focused messages when promoting hedonic products. Conversely, prevention-focused messages are more effective than promotion-focused messages when promoting utilitarian products. Lin and Shen (2012) also found that regulatory orientation, message framing (gain vs. loss) and product attributes (hedonic vs. utilitarian) are important considerations when trying to positively influence attitudes relating to adverts, brands and purchase intentions.

Jain et al. (2006) investigated how regulatory orientation influences perceptions of different types of comparative advertising frames; maximal frames (brand A is superior to brand B) and minimal frames (brand A is equivalent or similar

to brand B). The studies revealed that promotion-focused individuals were more persuaded by maximal frames. Specifically, maximal frames induced more message elaboration than minimal frames among promotion-focused individuals. In contrast, prevention-focused individuals found minimal frames to be more persuasive or equally persuasive to maximal frames. These results provide support for fit effects between regulatory orientation and message framing. Promotion-focused individuals are especially sensitive to messages that promote goal maximisation (i.e. maximal frames). In contrast, prevention-focused individuals are less concerned with pursuing goal maximisation and are instead concerned with making careful assessments of the brands. Consequently, minimal frames “fit” a prevention-focused orientation because they provide a balanced approach that lends itself to closer message scrutiny.

Florack and Scarabis (2006) demonstrated that individuals exhibited a preference for products that used advertising claims which were congruent with a primed regulatory orientation. The authors also noted that participants’ category brand associations were stronger when the advertising claim was congruent with the induced regulatory orientation. Furthermore, RF is found to moderate the effectiveness of different advertising argument styles (Florack, Ineichen, & Bieri, 2009). Adverts which highlight both the positive and negative features of a product are said to use “two-sided arguments”. Past research has found that adverts employing two sided arguments are perceived to be more honest (Golden & Alpert, 1987) and are more difficult to counterargue against (Kamins & Assael, 1987). Florack et al. (2009) demonstrated that chronic promotion (prevention) focused individuals generated relatively more (less) positive evaluations of adverts that used two sided arguments (Florack et al., 2009). Similar results were found in Study 2 and Study 3 where

regulatory focus was momentarily primed by the researchers. Prevention-focused individuals were again found to be relatively more attentive to a product's shortcomings that were outlined in a message containing a two sided argument. While prevention-focused individuals attended to both the ad content and the advert's perceived credibility when evaluating the message. In contrast, promotion-focused individuals focused more on the advert's perceived credibility and less on the actual content of the advert.

Regulatory orientation not only influences how individuals perceive information, it also influences how they process it. Prevention-focused individuals are predisposed to employing systematic information processing strategies (Avnet & Higgins, 2006). In contrast, promotion-focused individuals are predisposed to employing heuristic information processing strategies (Avnet & Higgins, 2006). Correspondingly, Pham and Avnet (2004) demonstrated that the diagnostic relevance of affective (substantive) assessments is greater among promotion (prevention) focused individuals. These differences in information processing between regulatory foci have implications for decision making and problem solving. Zhu and Meyers-Levy (2007) demonstrated that promotion-focused individuals are likely to use "relational message elaboration" when processing a message. In contrast, prevention-focused individuals are more likely to use "item-specific elaboration" when processing a message (Zhu & Meyers-Levy, 2007). Similar trends have also been observed in product evaluation studies. Murali and Pons (2009) demonstrated that prevention-focused individuals are likely to adopt an "attribute processing approach" (use a comparison table) when comparing products. In contrast, promotion-focused

individuals are more likely to rely on an “alternatives processing approach” in which product choices are appraised individually.

To conclude, regulatory orientation is conceptually distinct from motivational orientation (Cesario et al., 2008). Motivational orientation relates to neurological predispositions while regulatory focus relates to self-regulation. Unlike approach motivation and avoidance motivation, both promotion-focused and prevention-focused individuals may pursue the same goal (Cesario et al., 2008). However, both constructs are closely linked and some researchers argue that approach and avoidance measures such as BIS and BAS may be used as proxy measures for self-regulation (for a review see Haws et al. 2009). In any case, both motivational orientation and regulatory orientation are derived from the same underlying principle; the hedonic principle. The hedonic principle suggests that human behaviour seeks to maximise pleasure and avoid pain. As such, the hedonic principle is the bedrock upon which motivational orientation and regulatory orientation rests (Higgins, 1997). While motivational orientation is the main focus in the present research, both motivational orientation and self-regulation are easily accommodated by Regulatory Fit Theory. Indeed, the literatures of motivational orientation and regulatory orientation are replete with studies providing evidence of “fit effects”.

3.4. Regulatory Fit Theory

Regulatory fit theory is a broad, goal pursuit theory that posits “fit effects” between regulatory/motivational orientations and the strategic means of goal pursuit (Avnet & Higgins, 2003; Cesario et al, 2004; Florack & Scarabis, 2006; Kruglanski 2006; Pham & Chang, 2010; Spiegel et al. 2004). Individuals experience regulatory

“fit” or feeling “just right” when they adopt goal pursuit strategies or engage in activities that sustain their motivational/regulatory orientation (Avnet & Higgins, 2006). Conversely, individuals experience regulatory “non-fit” when they adopt goal pursuit strategies or engage in activities that disrupt their motivational/ regulatory orientation. The “feels right” sensation associated with regulatory fit does not enhance responses but rather magnifies the intensity (positive or negative) of the individual’s response (Avnet & Higgins, 2006). The influence of fit effects or “congruency effects” on persuasive communications is well documented within motivational and self-regulation (for a review see Lee & Higgins, 2009). Indeed, Motyka, Grewal and Puccinelli et al. (2014) undertook a meta-analytic synthesis of 213 regulatory fit studies involving 23,690 participants during a 16 year period (1998 - 2013). The study findings showed that the behavioural buying intentions of individuals who experienced a fit between the advert and their regulatory orientation increased by 1.86 times when compared to individuals who experienced non-fit.

3.4.1. Fit Effects for Regulatory Orientation

Regulatory fit may be induced by either “sustaining” or “matching” an individual’s regulatory orientation. Regulatory fit can be produced using “integral methods” or “incidental methods” (Cesario et al., 2008). Integral regulatory fit is achieved when fit is induced by components that are “integrally” embedded within the persuasion situation; e.g. message framing (Avnet & Higgins, 2006), argument type (Pham & Avnet, 2004) or body language (Cesario & Higgins, 2008). For example, Cesario and Higgins (2008) found that prevention (promotion) focused individuals responded more favourably to messages from individuals who adopted a vigilant

(eager) body language. An eager, non-verbal, communication style is characterised by fast speech, fast movement and a forward leaning stance. In contrast, a vigilant, non-verbal, communication style is characterised by slow speech, movement and a backward leaning stance.

Cesario et al. (2004) showed that integral regulatory fit strengthens reactions to a message. Indeed, studies find that fit between regulatory orientation (e.g. promotion-focused) and message framing (e.g. gain-framing) increases advert persuasiveness (Cesario et al., 2004; Lee & Aaker, 2004), increases individuals sensitivity to argument strength (Aaker & Lee, 2001; Lee & Aaker, 2004), improves message processing fluency (Aaker & Lee, 2001) and promotes message recall (Aaker & Lee, 2001). Interestingly, Cesario et al. (2004) demonstrated that regulatory fit had no impact on how a message is perceived if individuals focus on the topic rather than the message quality. Evans and Petty (2003) also demonstrated that matching message framing to regulatory orientation led to an increase in message processing. Agrawal et al. (2005) showed that individuals experiencing regulatory fit are more likely to invest cognitive resources on processing emotional aversive information (i.e. cancer screening message). Conversely, Kahn and Luce (2003) demonstrated that non-fit conditions reduce the amount of cognitive resources an individual is willing to invest in processing a health message.

Avnet and Higgins (2006) found that prevention (promotion) focused individuals were more likely to use reason-based (emotion based) strategies when making product evaluations. Interestingly, Cornelis, Adams and Cauberghe (2012) demonstrated that fit effects and non-fit effects only occur when an adverts' persuasive argument (rational vs. emotional) is congruent with the individual's

regulatory orientation. For example, prevention-focused individuals only exhibited fit and non-fit effects when they were exposed to reason-based adverts. Conversely, promotion-focused individuals only exhibited fit and non-fit effects when they were exposed to emotion-based adverts.

Fit not only makes messages more appealing, it makes consumer products more attractive. Indeed, fit induces individuals to generate inflated valuations for products such as book lights and mugs (Avnet & Higgins, 2003; Higgins, Idson, Freitas, Spiegel, & Molden, 2003). Research suggests that regulatory fit promotes “value transfer” (Higgins, 2005). This value transfer is a consequence of the “feels right” sensation that characterises regulatory fit. Avnet and Higgins (2003) demonstrated that individuals are willing to pay 40% more for a product (mug) when experiencing regulatory fit. Later research by the authors found that promotion-focused individuals were willing to pay 50% more for the product (correction fluid) if they used an emotion based strategy (rather than a reason based strategy) to access the product. Conversely, prevention-focused individuals were willing to pay approximately 40% extra for the correction fluid when they used a reason based strategy (rather than a feeling based strategy) to access the product. This value transfer is not confined to monetary judgements. Higgins et al. (2003) asked participants to rate pictures of dogs on their perceived “good naturedness”. Participants who experienced regulatory fit were found to rate the dogs more favourably than participants who experienced regulatory non-fit. Regulatory fit effects and value transfer are found to occur independently of mood (e.g. Higgins et al. 2003).

Fit effects are powerful effects that may even counteract the effects of resource depletion (Hong & Lee, 2008). In a series of studies, the authors demonstrated that regulatory fit can attenuate the effects of resource depletion. Interestingly, findings by Lisjak, Molden and Lee (2012) indicate that chronically accessible motivational orientation requires less effort to exercise than temporarily primed motivational orientation. The research found that shifting from a habitual mindset (chronic regulatory orientation) to an alternative mindset (temporarily primed incongruent orientation) was effortful and required attentional resources. Furthermore, priming an (incongruent) motivational orientation served to deplete cognitive resources that were mobilised to rectify the conflicting state. In short, the studies revealed that cognitive resources are depleted as a result of the regulatory non-fit. Those in the non-fit group exhibited diminished performance in a stroop test (Study 1), a lexical decision task (Study 2), and in a test on arithmetic (Study 5). Those in the non-fit group were also less resistant to temptation (Study 6) than those in the fit group. The authors proposed a primed interference hypothesis which suggests that incongruent motivational states negatively affect cognitive performance (e.g. mental arithmetic) and self-control capabilities (resisting temptations). Other research seems to support these findings. For example, Vaughn et al. (2006) found that adjusting initial impression formations was less (more) difficult for individuals experiencing regulatory fit (non-fit) effects. The authors suggest that individuals experiencing regulatory non-fit are forced to commit more resources during the initial impression formation. It thus follows that individuals in the non-fit condition find it more difficult to change the effortful impressions they previously derived. Kehr (2004) also suggests

that individuals use up resources when attempting to address internal conflicts that result from non-fit effects.

As previously mentioned, fit effects may be created through integral or incidental means. Incidentally induced fit effects are of particular relevance in the present research due to the mindset priming approach employed in this research. Mindset priming paradigms employ a two study design in which participants are primed in the first study and then exposed to the target in the second, ostensibly unrelated study. Studies investigating incidental regulatory fit adopt the same design. Incidental regulatory fit occurs independently of the persuasion context and involves the use of a priming procedure that is enacted prior to the evaluation of a target stimulus (e.g. Freitas & Higgins, 2002). Freitas and Higgins (2002) were the first to incidentally induce regulatory (non)fit by asking individuals to list their hopes and aspirations (promotion-focused prime) or their duties and obligations (prevention-focused prime). Participants were then asked to specify how they would achieve these goals by listing either eager strategies or vigilant strategies. The crossing of these two manipulations resulted in two fit conditions (promotion/eager and prevention/vigilant) and two non-fit conditions (promotion/vigilant and prevention/eager). Koenig, Cesario, Molden, Kosloff, and Higgins (2009) incidentally induced fit using this priming procedure developed by Freitas and Higgins (2002). In Study 1, participants read a fictitious newspaper article advocating a senior comprehensive exam written by either a high credibility or low credibility source. The results suggested that those in the non-fit group were less likely to rely on heuristic cues when assessing the article. In Study 2, two similar newspaper articles were presented to participants but on this occasion the argument strength was manipulated. The results indicated that those in

the regulatory fit group did not exhibit significant attitude change between low and high argument strength conditions. However, the non-fit group participants were found to be sensitive to argument strength. Study 3 investigated the effects of regulatory fit on “counterpersuasion” (a reversal of the effects of persuasion). Participants were shown one of two articles; one supporting an after school programme and one opposing it. Counterpersuasion was measured by subtracting participants’ attitude ratings obtained after exposure to the second article from the rating initially gathered after exposure to the first article. The first article was used to establish a baseline from which attitude change could be measured. This first article was designed to convey a highly agreeable argument supporting the programme which should minimise the effects of regulatory fit. As predicted, the results indicated that those in the regulatory fit and non-fit group formed equally positive attitudes towards the initial supporting article. However, after exposure to the second article which opposed the after school programme, those in the fit condition exhibited significantly less positive attitudes than those in the non-fit group. The findings suggest that those in the incidental fit condition did less thought processing relative to those in the incidental non-fit condition. As a consequence, the opinions of those in the fit condition were more influenced by the new information and therefore more susceptible to counterpersuasion. The authors concluded that incidental regulatory fit increased an individual’s reliance on source expertise while reducing their resistance to counter-persuasion. The results also indicated that incidentally induced non-fit increases an individual’s reliance on argument strength and strengthens resistance to counter-persuasion. Similar fit effects have been evidenced within motivational orientation literature as outlined in the next section.

3.4.2. Fit Effects for Motivational Orientation

Research suggests that an individual's chronic motivational orientation moderates perceptions of gain and loss (Elliot, 2008; Elliot 2006; Elliot & Thrash, 2002; Gable et al. 2000). Furthermore, various studies have demonstrated a congruency effect between message framing and motivational orientation (Gerend & Shepherd, 2007; Mann et al. 2004; Sherman et al. 2006). Individuals with a strong avoidance orientation find loss-framed messages more persuasive than gain-framed messages (Gerend & Shepherd, 2007; Mann et al. 2004; Sherman et al. 2006). Interestingly, individuals with a weak avoidance orientation did not exhibit this tendency. Van 't Riet, Ruiter and Vries (2012) showed that individuals with low (high) BIS scores are more persuaded by low (high) threat messages. Specifically, while a high threat message promoted behavioural intention change among individuals exhibiting high BIS scores, those exhibiting low BIS scores did not exhibit intention change. This result was found regardless of the level of threat employed. Similarly, Sherman et al. (2006) demonstrated congruency effects between motivational orientation and message framing. Fit effects between motivational orientation and message framing promoted higher self-efficacy with regard to future dental care. A similar congruency effect emerged for participants' behavioural intentions. Approach (avoidance) orientated participants' demonstrated stronger lossing intentions after reading gain-framed (loss-framed) articles. However, the study did not explicitly test the perceived persuasiveness of the article.

An individual's motivational orientation also has implications within other consumer contexts. Marrero et al. (2008) demonstrated that BIS and BAS could be linked to differences in perceptual bias between risk and reward during a betting task.

Interestingly, Schmeichel et al. (2010) found that exercising self-control activates approach motivation. The researchers used a low stakes gambling game to activate approach behaviours where little self-control was needed. The research found that exercising self-control increased participants' detection rates of reward relevant symbols in a subsequent perceptual identification task. Motivational orientation is also found to influence hedonic shopping behaviours. Hedonic consumption can be characterised as a shopping experience in which there is a variety of positive stimuli or an absence on negative stimuli. Beatty and Ferrell (1998) have found that approach behaviours are associated with greater shopping spend, longer in-store stays and stronger store re-patronage intentions. Fit effects have also been found to influence persuasion within healthcare studies (Gerend & Shepherd, 2007). For example, Gerend and Shepherd (2007) investigated the role of motivational orientation in moderating participants' behavioural intentions to get vaccinated against the Human Papilloma (HPV) virus. Participants were exposed to loss-framed and gain-framed messages. The results revealed that participants with a high BAS scores reported greater vaccination intentions following exposure to either message. Furthermore, there was a significant interaction between framing condition and BIS. The results indicated that loss-framed messages were more effective than gain-frame messages for promoting vaccination intentions among individuals exhibiting a high BIS score. However, among individuals exhibiting low BIS scores, no differences in behavioural intentions were found between loss and gain framed messages (Gerend & Shepherd, 2007). The authors concluded that tailoring a message to "fit" an individual's motivational orientation achieves greater persuasive power due to an increase in message scrutiny. In short, the authors found evidence to suggest that fit effects

increase systematic information processing. Correspondingly, individuals were more sensitive to the arguments put forward when they were congruent with the individual's motivational orientation.

Hevey and Dolan (2013) also provide evidence of fit between motivational orientation and message framing. Specifically, the authors demonstrated that approach (avoidance) orientated individuals found gain (loss) framed messages relating to skin cancer information more persuasive. The fit effects of matching the message to the individual's motivational orientation also improved sun protection intentions among participants. The strong evidence for fit effects between motivation orientation and message frame provides advertisers with an important guiding principle for increasing persuasion. However, less research has been undertaken to understand the role of fit effects in regulating consumer resistance.

3.5. Conclusion

Xu and Wyer (2012) demonstrated that inducing individuals to counterargue (bolster) in one domain increases the likelihood of these thought processes being adopted when evaluating subsequently encountered adverts. Indeed, their research provides the first demonstration of a behavioural mindset influencing persuasive communications. However, many questions remain unanswered. While Xu and Wyer (2012) demonstrated that the valence of thoughts generated by participants mediated these mindsets, they did not investigate moderating variables. The identification of moderating factors is critical to further our understanding of these mindsets. As this chapter has illustrated, approach and avoidance tendencies exert a powerful influence on the cognitive, behavioural and perceptual processes that regulate resistance.

Considering that mindsets are cognitive phenomena it seems logical that an individual's motivational orientation would moderate their influence. Indeed, fit effects between bolstering/counterarguing mindsets and motivational orientation seems very plausible. As we have seen, approach and avoidance tendencies strongly affect cognitive processes and thought accessibility. Accordingly, motivational orientation should influence the strength of counterarguing and bolstering mindsets. Evidence of such fit effects would add to the scant literature on these new mindsets. Such evidence would also provide a basis for identifying individuals who are particularly susceptible to these cognitive states. Considering the importance of counterarguing and bolstering across all consumer contexts this conspicuously theoretical gap in the literature warrants investigation.

It should be noted that while fit effects can be powerful phenomena they are fragile. This is due to the fact that they are based on the misattribution of the “feels right” sensation that characterises fit effects. Indeed, all priming effects are inherently fragile phenomena and are often difficult to replicate (e.g. Yong, 2012). In recent years researchers have come to the realisation that greater replication efforts are needed within psychology (Chambers & Sumner, 2012; Francis, 2012; Simons, 2014). However, the renewed interest in replication has highlighted many of the challenges and difficulties researchers face when attempting to replicate priming results (Cesario, 2014; Dijksterhuis, 2014). Nevertheless, these much needed replication efforts help to narrow effect sizes and add to the growing debate about the generalizability of priming effects. To the authors knowledge this research is the first attempt to replicate bolstering and counterarguing mindsets. The current research also attempts to extend the original research of Xu and Wyer (2012) by testing if motivational orientation and

persuasion knowledge moderate the effects of these counterarguing and bolstering mindsets. The research also tests if bolstering and counterarguing mindsets regulate the activation of PK thoughts. Finally, the research tests if these mindsets can be reactivated by recalling past bolstering and counterarguing episodes.

CHAPTER 4: OVERVIEW OF RESEARCH

The term “persuasive appeal” (e.g. Koenig et al. 2009) and “persuasive attack” (e.g. Tormala, Clarkson, & Petty, 2006) are often used interchangeably in persuasion literature. Presumably, the only distinction between these two terms is a matter of perspective; i.e. a persuasion agent (e.g. advertiser or salesperson) makes a persuasive appeal while an unwilling recipient repels an unsolicited, persuasive attack. Individuals may employ seven main strategies to resist persuasive attacks; attitude “bolstering”, counterarguing, negative affect, selective exposure, social validation, source derogation and asserting a belief that nothing will change their minds (Zuwerink Jacks & Cameron, 2003). This research will investigate the two most important resistance strategies; counterarguing and bolstering.

Counterarguing refers to the generation of opposing arguments in response to a persuasive appeal (Xu & Wyer, 2012). In contrast; bolstering refers to the generation of supporting arguments in response to a persuasive appeal (Knowles & Linn, 2004). Counterarguing and bolstering are the most widely used strategies for resisting persuasion attempts (Zuwerink Jacks & Cameron, 2003). Bolstering and counterarguing are also the most potent defensive strategies available to consumers (Zuwerink Jacks & Cameron, 2003). However, counterarguing and bolstering strategies tax cognitive resources and require high levels of motivation and engagement to enact (Briñol et al., 2004). Compared to other resistance strategies (e.g. source derogation, negative affect, and selective exposure) bolstering and counterarguing are reflexive, argument-based approaches that require conscious, effortful resistance. Interestingly though, recent research suggests that counterarguing

and bolstering behaviours may be activated outside of conscious awareness (Xu & Wyer, 2012).

Xu and Wyer (2012) demonstrated that inducing individuals to counterargue (bolster) increases the likelihood of them employing these cognitive procedures when evaluating adverts in an ostensibly unrelated study. The researchers demonstrated that bolstering and counterarguing mindsets may be procedurally primed or incidentally induced. To the author's knowledge, no study has yet replicated these newly discovered mindsets.

This research seeks to test both the robustness and generalisability of bolstering and counterarguing mindsets. Across 6 studies the researcher will attempt to replicate the carryover effects reported by Xu and Wyer (2012) in their study (see H1 - H3). The research also aims to extend the work of Xu and Wyer (2012) by testing the hypothesis that motivational orientation moderates the effects of these mindsets (see H4). Motivational orientation is considered to be a building block of human behaviour (Carver, 2006). Accordingly, it seems plausible that motivational orientation may moderate the non-conscious approach and avoidance behaviours activated by these mindsets. A number of secondary hypotheses will also be tested. For example, Persuasion Knowledge (PK) will also be tested as a potential mindset moderator (see H5). The research will investigate the implications of these mindsets for consumer welfare. Specifically, it will explore the possibility that bolstering and counterarguing mindsets affect individuals' defensive responses to persuasive appeals (see H5). The research will also explore the possibility that reactivating past bolstering and counterarguing thoughts may activate these mindsets (see H6). The hypotheses for all studies are outlined in the next section.

4.1. Hypotheses

4.1.1. Hypotheses for Perceptual Variables

Hypothesis 1a: Participants in the bolstering (counterarguing) condition will generate more (less) favourable overall evaluations of persuasive appeals (composite measure of persuasiveness and appeal) than participants in the control condition and participants in the counterarguing (bolstering) condition.

Hypothesis 1b: Participants in the bolstering (counterarguing) condition will generate more (less) favourable product/proposition evaluations (i.e. product/proposition attractiveness) than participants in the control condition and participants in the counterarguing (bolstering) condition.

4.1.2. Hypotheses for Behavioural Variables

Hypotheses 2a-d: Participants in the bolstering (counterarguing) condition will be more (less) willing to pay for a product/proposition (H2a), be more (less) willing to volunteer for future research (H2b), be more (less) willing to volunteer their time (i.e. minutes) for future research (H2c), and be more (less) willing to sign a petition (H2d) than participants in the control condition and participants in the counterarguing (bolstering) condition.

4.1.3. Hypotheses for Cognitive Variables

Hypotheses 3a-b: Participants in the bolstering (counterarguing) condition will generate more (less) positive thoughts (H3a) and generate less (more) negative thoughts (H3b) in response to the persuasive appeal than participants in the control condition and participants in the counterarguing (bolstering) condition.

Hypotheses 3c-d: Participants in the bolstering (counterarguing) condition will generate less (more) PK thoughts (H3c) and exhibit greater (lesser) attitude certainty (H3d) than participants in the control condition and participants in the counterarguing (bolstering) condition.

Xu and Wyer (2012) did not test for moderators of bolstering and counterarguing mindsets. Thus, the boundary conditions of these mindsets await testing. Individual difference traits that moderate advertising effectiveness have long interested academics and persuasion practitioners alike. Indeed, a large body of research has been undertaken to investigate how individual difference traits affect perceptions of persuasive communications (for a review see Brinol & Petty, 2004). Motivational orientation is a building block of human behaviour and is thus a particularly important individual difference trait (Carver, 2006). Chapter 3 demonstrates that approach and avoidance tendencies can predict how individuals feel (e.g. Cesario et al., 2004), think (e.g. Mann et al., 2004) and behave (e.g. Hevey & Dolan, 2014) when interacting with persuasive communications. Given that motivational orientation can dictate whether

an individual approaches or avoids a stimulus, this construct is particularly well suited to investigating consumer resistance.

Consumer mindset can compromise consumers' defences and induce them to spend more (Dhar et al., 2007; Xu & Wyer, 2007, 2008). Indeed, simply switching between mindsets may weaken consumer resistance by inducing resource depletion (Hamilton et al. 2011). Resource depletion has been linked to a wide range of societal ills including overeating, overspending, crime, violence, drug abuse and smoking (Baumeister & Heatherton, 1996; Vohs & Faber, 2007). Despite overwhelming evidence to the contrary, consumers still happily entertain the "illusion of invulnerability" (Sagarin, Cialdini, Rice, & Serna, 2002). These researchers note the dearth of studies specifically focused on consumer resistance and call on scholars to work towards alleviating this knowledge deficit. Investigating consumer resistance would be of "considerable theoretical worth" and be of "substantial practical value" to society (Sagarin et al. 2002; p. 526). Answering this call, the current research seeks to make an important theoretical contribution to the scarce literature on consumer resistance by identifying individuals exhibiting a heightened sensitivity to bolstering and counterarguing mindsets.

4.2. Behavioural Mindsets and Motivational Orientation

As outlined in Chapter 3, there is strong evidence to suggest that motivational orientation (e.g. Gerend & Shepherd, 2007; Mann et al. 2004; Sherman et al. 2006) and regulatory orientation (e.g. Aaker & Lee, 2001; Higgins, 1997; Hong & Lee, 2008; Lisjakn et al; 2012; Pham & Avnet, 2004) influence information processing strategies. Specifically, approach/promotion-focused individuals are more likely to

use eager strategies during information processing (Cesario et al., 2008). Conversely, avoidance/prevention-focused individuals are more likely to use vigilant strategies during information processing (Freitas & Higgins, 2002). Accordingly, it is hypothesised that individuals exhibiting high approach (avoidance) motivation will find bolstering (counterarguing) thoughts more accessible. If true, this heightened accessibility to these respective cognitive procedures should make these individuals differentially susceptible to these mindsets. Fit (non-fit) effects are found to accentuate (attenuate) an individual's natural response to persuasive messages (Florack et al. 2009; Freitas & Higgins 2002; Jain et al. 2006; Lee et al. 2000; Lee & Aaker, 2004). Thus, it is postulated that individuals exhibiting high approach (avoidance) motivation will be more sensitive to bolstering (counterarguing) mindsets and, consequently, will exhibit stronger carryover effects as a result. Accordingly, the following hypothesised fit effects between mindset and motivational orientation are derived:

4.2.1. Hypotheses for Motivational Orientation

Hypotheses 4a-b: The carryover effects of a bolstering (counterarguing) mindset on participants' evaluations of persuasive appeals (composite of persuasiveness and appeal) (H4a) and participants' evaluations of products/propositions attractiveness (H4b), will be particularly pronounced among participants exhibiting high approach (avoidance) motivation.

Hypotheses 4c-f: The carryover effects of a bolstering (counterarguing) mindset on behavioural variables; willingness to pay (H4c), willingness to volunteer for future studies (H4d); number of minutes volunteered for future studies (H4e) and willingness to sign a petition (H4f) will be particularly pronounced among participants exhibiting high approach (avoidance) motivation.

4.3. Behavioural Mindsets and Persuasion Knowledge

Deceptive and manipulative practices are widespread in the marketplace (for a review see Boush, Friestad, & Wright, 2009). Persuasion Knowledge allows individuals to “cope” with persuasion attempts (Friestad & Wright, 1994). This knowledge is activated in order to assess the bona fides of a persuasive appeal and to determine the appropriate response. As such, PK represents an indispensable resource that offers a protective shield to consumers who must resist numerous persuasive attacks each day (Xie, Boush, & Liu, 2013).

Avoidance motivation bestows upon the individual a defensive posture which predisposes them to enacting vigilant strategies. Vigilant strategies serve to protect consumers and are thus especially important when accessing potentially deceptive or manipulative communications (Friestad & Wright, 2013). An individual’s ability to detect and deflect deceptive persuasive attacks is likely to be reliant upon “vigilant strategies” that are strongly associated with avoidance tendencies. Accordingly, it seems that the goals associated with avoidance motivation are congruent with the activation of persuasion knowledge. Indeed, it seems logical to assume that avoidance motivation might facilitate the activation of persuasion knowledge. The activation of

PK would complement any vigilant strategies being applied and lend itself to the self-defensive goals being pursued. According to Knowles and Linn, (2004; p.7) “the four faces of resistance are: reactance, distrust, scrutiny and inertia. Distrust and message scrutiny are likely to be especially important defensive responses when evaluating manipulative persuasion appeals.

In contrast, the hedonic goals associated with approach motivation appear incongruent with the activation of PK. The eager strategies that characterise approach tendencies are concerned with reward attainment and goal maximisation rather than pain avoidance or loss prevention. Above, Hypothesis 6 posits that bolstering (counterarguing) mindsets are moderated by approach (avoidance) motivation. Using the hypothesis as a theoretical platform, the author extrapolates the hypotheses with regard to fit effects between PK and mindset: These hypotheses are outlined in the section below.

4.3.1. Hypotheses for Persuasion Knowledge

Hypothesis 5a: Participants in the bolstering (counterarguing) condition will rate a persuasive appeal as less (more) manipulative than participants in the control condition and participants in the counterarguing (bolstering) condition.

Hypothesis 5b: The carryover effects of bolstering (counterarguing) mindset will be particularly pronounced among participants exhibiting low (high) Persuasion Knowledge.

4.4. Behavioural Mindsets and Episodic Recall

As previously discussed, Fransen and Fennis (2014) demonstrated that an episodic recall task can activate resistance. Specifically, the authors primed “persuasive intent”. The priming procedure involved an episodic recall task in which participants were asked to recall a past situation where someone tried to influence them. This persuasion intent prime activated resistance to future adverts by implicitly forewarning participants of an imminent persuasion attempt. Indeed, priming persuasive intent induced comparable levels of resistance to explicit forewarnings of upcoming persuasive attempts. However, the authors did not prime participants with a specific resistance strategy. Consequently, there is no way to know what type of resistance strategies were activated as a result of this episodic priming task. The current research seeks to address this problem by testing if activating memories of specific resistance strategies (counterarguing or bolstering) can prime the future deployment of these cognitive procedures when evaluating adverts. Accordingly, the following hypothesis is postulated:

4.4.1. Hypothesis for Episodic Priming

Hypothesis 6: An episodic recall task will induce a bolstering (counterarguing) mindset.

4.5. Overview of studies

Across 6 studies, the current research sought to replicate and extend the work of Xu and Wyer (2012) by exploring the effects of a counterarguing mindset (Study 1, Study 4 and Study 6) and those of the bolstering mindset (Study 2, Study 3 and Study 6).

Study 1 attempted a direct replication of the counterarguing mindset (Xu and Wyer, Study 1). The study employed a 3 (mind-set: bolstering vs. counterarguing vs. control) x 2 (favourableness of vacation spot: high vs. moderate) between-subjects design to test H1 to H4. In Study 1, participants were exposed to one of two hotel adverts featuring either a highly attractive hotel or a moderately attractive hotel. The study tested the impact of bolstering and counterarguing mindsets on perceptual variables relating to advert evaluations (H1a) and product attractiveness (i.e. hotel attractiveness (H1b)). It also tested the impact of bolstering and counterarguing mindsets on behavioural variables: participants' willingness to pay (H2a), participants' willingness to volunteer for future studies (H2b), and the number of minutes that participants were willing to volunteer for future studies (H2c). The study also tested the impact of bolstering and counterarguing mindsets on the cognitive variables: the number of positive thought generated by participants (H3a) and the number of negative thoughts generated by participants (H3b). The primary aim of Study 1 was to test the hypothesis that avoidance motivation (BIS) moderates the carry over effects of a counterarguing mindset (H4a-f) Specifically, it was hypothesised that individuals exhibiting strong avoidance motivation (high BIS scores) would exhibit stronger carryover effects of a counterarguing mindset than participants exhibiting weak avoidance motivation (low BIS scores).

Study 2 employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (MI of article: high vs. low) between-subjects design to test H1 – H5a. In this study participants were procedurally primed before being exposed to one of two newspaper articles which advocated the introduction of a “web-tax”. In addition to the hypotheses tested in Study 1, this study also tested the impact of counterarguing and bolstering mindsets on participants’ willingness to sign a petition (H2d), participants’ attitude certainty (H3d), and participants’ ability to generate PK related thoughts (H3c). The study further tested the hypothesis that bolstering and counterarguing mindsets influence participant’s ability to detect manipulative intent (H5a). The primary aim of Study 2 was to test the hypothesis that approach motivation (BAS) moderates the carry over effects of a bolstering mindset (H4a-f).

Study 3 employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (manipulative intent of article: high vs. low) x 2 (priming types: procedural vs. episodic) between-subjects design to test H1 – H6. Participants were exposed to one of two newspaper articles advocating the introduction of a mandatory pension scheme. Participants in the episodic priming conditions were asked to recall a time when they engaged in bolstering or counterarguing behaviours. In addition to the hypotheses tested in Study 2, the study tested the hypothesis that a participant’s chronic PK would moderate the effects of the bolstering mindset (H5b) and the hypothesis that a bolstering mindset could be activated via an episodic priming procedure (H6). The inclusion of both types of priming procedures allowed the researcher to assess the differential strength of each priming procedure. However, the primary aim of Study 3 was to test the hypothesis that approach motivation (BAS) moderates the carry over effects of a bolstering mindset (H4a-f).

Study 4 employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (favourableness of hotel: high vs. moderate) between-subjects design to test H1 – H4 and H6. Using the same experimental design and materials used in Study 1 participants were exposed to one of the two hotel adverts. However, unlike Study 1 participants were primed using an episodic priming procedure rather than the procedural priming.

Study 5 employed a 3 (mindset: bolstering vs. counterarguing vs. control) x Advert between-subjects design. Participants were procedurally primed and then exposed to the same (exotic snack food) advert used by Xu and Wyer (Study 2). Study 5 tested H1 – H4.

Finally, study 6 employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (favourableness of hotel: high vs. moderate) x 2 (priming types: procedural vs. episodic) between-subjects design. Participants were primed using a procedural priming procedure or an episodic priming procedure and then exposed to one of two hotels adverts (Xu and Wyer, Study 1). Study 6 tested H1 – H4 and H6.

4.6. Methodological Issues in Priming Research

This section discusses a number of contemporary issues that dominate the current discourse among academics within the field of priming research. The importance of replication efforts within the field are outlined and some of the challenges relating to replication efforts are explicated.

Priming research is still in its infancy and remains at an early stage of evolution (Cesario, 2014). The conceptually fuzzy boundaries between different types of priming effects and the lack of a unifying theory within the field are issues of

concern (Ferguson & Mann, 2014). However, recent public denouncements of priming research are both unwarranted and unhelpful (Ferguson & Mann, 2014). Priming effects are well established within psychology literature and are supported by decades of research (e.g. Janiszewski & Wyer, 2014). Within cognitive psychology, semantic, lexical and associative priming paradigms are routinely used and provide robust and replicable results (Ferguson & Mann, 2014). In such studies participants are typically exposed to a prime before undertaking a lexical decision task. In a lexical decision task participants are asked to indicate as quickly as possible if a letter string represents a word or a non-word. Research finds that when the prime is associated with the target word (e.g. when the prime is “doctor” and the target word is “nurse”) participants respond faster than when the prime and target word are not conceptually linked. The millisecond differences in response time that manifest themselves as priming effects have been replicated many times and typically appear within statistically powerful designs (Ferguson & Mann, 2014). Ferguson and Mann (2014) suggest that the controversy surrounding priming studies is due to “definitional imprecision”. These researchers also note that most of the controversies surrounding priming effects relate to a narrow subgroup of priming studies that have emerged in the last 20 years, namely “goal priming”, “behaviour priming” or “social priming”. Ferguson and Mann (2014 p. 34) rightly point out that “the recent publicity frenzy surrounding priming” is driven by critics who refer to different types of priming as if they are distinct categories; e.g. priming (Yong, 2012), social priming (Kahneman, 2012), goal priming (Pashler, Coburn, & Harris, 2012) or behavioural priming (Doyen, Klein, Pichon, & Cleeremans, 2012).

Priming effects are complex phenomena and categorising these effects is often problematic since primes exert influence across overlapping areas. In an attempt to provide some clarity on goal priming effects Förster et al. (2007) specifies criteria that may be used to identify goal priming effects. The authors assert that “goal-priming effects (a) involve value, (b) involve post-attainment decrements in motivation, (c) involve gradients as a function of distance to the goal, (d) are proportional to the product of expectancy and value, (e) involve inhibition of conflicting goals, (f) involve self-control, and (g) are moderated by equifinality and multifinality” (Förster et al. (2007 p. 211). However, while these characteristics of goals may provide helpful guidelines there are few hard and fast rules for categorising priming effects. Despite the best efforts of researchers the conceptual lines of demarcation for priming effects remain blurry and imprecise (Ferguson & Mann, 2014). To illustrate this point the authors ask readers to consider the classical priming study by Bargh, Chen, and Burrows (1996) which demonstrated that rudeness/politeness could be primed. Is this a goal prime or a social prime or a behavioural prime? The problem is that all priming effects are social in some sense. While the term social priming is unhelpful and ambiguous it typically relates to priming effects that change social behaviour (Ferguson & Mann, 2014). For example, studies that prime stereotype activation (e.g. DeMarree, Wheeler, & Petty, 2005) or social behaviours (e.g. Bargh, Chen, & Burrows, 1996) may be considered social priming. The distinction between behaviour priming and goal priming is less clear (Förster, Liberman, & Friedman, 2007). However, since not all goals are behavioural in nature we can deduce that behavioural priming is a subset of goal priming.

Murky definitional distinctions aside, the primary reason for the controversy surrounding social, behavioural, or goal priming studies is due to the large effect sizes they tend to report (Ferguson & Mann 2014). The strength of the effect sizes reported in goal priming studies has raised doubts among some researchers who find the results counterintuitive and improbable (e.g. Pashler & Wagenmakers, 2012). Pashler et al. (2012) examined the effect sizes of well cited goal priming studies. They found a large effect sizes ranging from $d=0.5$ to $d=1$ which eclipsed the much smaller effects they found in a typical perceptual priming study ($d= .06$). Pashler et al. (2012) argue that goal primes are relatively abstract in nature when compared to the more concrete semantic primes that operate via a more direct mechanism (i.e. spreading activation). Thus the large effects found in goal priming studies seem counterintuitive. Pashler et al. (2012) also suggest that the relatively small number of underpowered goal/behavioural priming studies may be indicative of a large body of unsuccessful studies that have been consigned to the file drawer. The file drawer problem “systematically increases the proportion of false-positives in the published literature and distorts perceptions of the robustness and size of an effect” (Finkel, Eastwick, & Reis, 2015 p. 281). The file drawer problem also results in “information leakage” within the scientific community (Dijksterhuis et al., 2014). Information leakage is a term used to describe the leakage of scientific information (“failed studies”) that never sees the light of day. Rather than broadening the knowledge base of science this information is lost to the system, confined to the dusty recesses of an actual or metaphorical file drawer. This data is conceptually similar to the mysterious astronomically concept of dark matter which scientists concede is ubiquitous yet remains tantalizingly out of scientist’s reach. However, not all scholars are concerned

about the theoretical ramifications of the file drawer problem. Dalton, Aguinis, Dalton, Bosco, and Pierce (2012) suggest that the problem can be overcome by meta-analyses. Indeed, the authors concluded that the file drawer problem does not produce an inflation bias and therefore does not pose a serious threat to the validity of meta-analytically derived conclusions. Nevertheless, many researchers remain unconvinced that meta-analysis can mitigate the threat posed by the file drawer problem. The information asymmetry caused by the file drawer problem not only prevents the growth of science, it actively impedes scientific progress (Dijksterhuis et al., 2014). The counter-productive, duplication of fruitless research could be avoided by greater levels of transparency. Dijksterhuis et al. (2014) note that the file drawer problem is especially problematic for aspiring researchers, many of whom are doomed to squander the time, money and resources making the same mistakes of their peers. This is especially true of priming studies which present a high level of risk and speculative endeavour (Dijksterhuis et al., 2014). In the words of prominent, mathematical psychologist Eric-Jan Wagenmakers; “I’ve seen students spending their entire PhD period trying to replicate a phenomenon, failing, and quitting academia because they had nothing to show for their time” (Yong, 2012; p. 299).

Replicating the priming effects of conceptually abstract primes such as stereotypes is often problematic due to the numerous downstream dependent variables that the concept could activate (Shanks et al., 2013). Indeed, Shanks et al. (2013) argue that such studies provide a researcher with too much discretion to cherry pick from a wide variety of eclectic dependent variables. The researchers also suggest that it seems unfeasible that behavioural priming effects should produce such strong effects, particularly when the conceptual link between the prime and the target

behaviour may be indirect. However, proponents of priming research dismiss these objections as a “disregard of theory in combination with premature or faulty logic” (Dijksterhuis, 2014 p. 72).

Dijksterhuis (2014) asserts that behavioural priming paradigms are likely to produce strong priming effects because they tend to use stronger primes. The author argues that human behaviour is a more natural and ecologically valid measure of construct accessibility and consequently it is logical that these priming effects should be larger. Arguably, behavioural priming effects should be most robust when a procedural priming paradigm is used. Procedural priming procedures like those employed by Xu and Wyer (2012) should theoretically provide a strong conceptual link between the prime and the target. The low construal level of the prime should also facilitate strong priming effects. However, as this doctoral research will demonstrate, procedurally priming paradigms are not without their challenges. Indeed, the research suggests that episodic priming procedures may provide more robust results than procedurally induced primes.

Some researchers have questioned the reason behind the relatively low number of behavioural priming studies published within the literature (e.g. Pashler & Wagenmakers, 2012). They suggest that this may be an artefact of the file drawer problem where a potentially high number of failed replications may reside. However, Dijksterhuis (2014) dismiss the claims that there is a lack of evidence for behavioural priming research. Dijksterhuis (2014) estimates there are between 200 - 400 empirical papers which have reported some behaviour priming effect in their results. While this represents a small subset of the estimated 12,000 priming studies conducted within the social sciences (Janiszewski & Wyer, 2014) it nevertheless represents a significant

body of evidence in support of behavioural priming effects. Dijksterhuis et al. (2014) contend that critics of priming studies are ignorant of the subtleties that characterise the research. They also make the point that “research on issues such as free will, unconscious processes, and automaticity is sometimes, unavoidably so it seems, ideological”. Furthermore, “not trusting an effect because it is counterintuitive is often essentially a form of circular reasoning” (Dijksterhuis et al. 2014 p. 200).

Dijksterhuis (2014) notes that behaviour priming effects are now being applied to a variety of pro-social scenarios (e.g. fund raising, addiction and anti-smoking initiatives) and argue that an overly sceptical response from academics might hamper these laudable lines of research. The present research also takes a strong ethical stance. The research adopts a consumer-centric perspective to the concepts of resistance and self-defence. Rather than bow to the insatiable appetite of marketers to find ways to sell more product, the current research aims to increase our understanding of how consumers may resist their advances. The current research also aims to investigate potential moderators and boundary conditions of bolstering and counterarguing mindsets that have been found to regulate consumer resistance. Dijksterhuis et al (2014) assert that future research must systematically investigate moderators of priming effects to aid theory building within the field of consumer behaviour. In undertaking this research two other important calls in the priming literature are being addressed: (1) to undertake much needed replication research (Chambers, & Sumner, 2012; Francis, 2012; Koole & Lakens, 2012; Simons, 2014; Yong, 2012) and (2) to investigate how priming influences consumer resistance (Laran et al., 2011).

4.6.1. Replication

“The ability to replicate effects across laboratories is arguably the sine qua non of science” (Finkel et al., 2015 p. 287). Indeed, the demarcation of science from non-science can be judged by invoking this criterion (Popper, 1959). “Replication is our (scientists) best friend because it keeps us honest” (Chambers & Sumner, 2012 p. 14). However, replication attempts within the sciences are proving problematic. Prinz, Schlange, and Asadullah (2011) found that only 25% of dozens of prominent medical studies could be replicated. Worse still, Begley and Ellis (2012) found only 11% of replicated drug trials were successful. Similar, coordinated replication efforts have recently commenced within the field of psychology (Open Science Collaboration, 2012). The Reproducibility Project is a collaborative effort by researchers to “systematically examine the rate and predictors of reproducibility in psychological science”. The project aims to replicate studies published during 2008 in three high ranking psychological journals; *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *Journal of Personality and Social Psychology* and *Psychological Science* (Open Science Collaboration, 2012). As of August 2012, the project boasted 72 volunteer researchers from 41 institutions. Preliminary results in May 2015 suggest that the scientists were only able to replicate 39% of the 100 studies they selected for replication². However, the results revealed that 24 of the remaining 61 studies did produce “moderately similar” findings (marginally significant results) in line with the original studies.

² <http://www.nature.com/news/first-results-from-psychology-s-largest-reproducibility-test-1.17433>, [27/06/15]

It is worth noting a certain topological eccentricity with regard to the lay of the land within priming literature. Specifically, certain landmark studies enjoy a vaulted position within the literature despite very limited evidence that these effects are replicable. For example, as of September 2016, Google Scholar indicates that Dijksterhuis and Knippenberg (1998) and Bargh et al. (1996) have been cited 756 times and 3729 times respectively. Bargh et al. (1996) demonstrated that priming personality traits such as rudeness or politeness could influence participants' social behaviours. The authors also demonstrated that priming the concept of being old could influence participants' motor behaviours (i.e. walking speed). Furthermore, Dijksterhuis and Knippenberg (1998) demonstrated that activating a stereotype associated with intelligence (i.e. a professor) could improve test performance in a game of trivial pursuit. Conversely, activating a stereotype associated with stupidity (i.e. a soccer hooligan) has the opposite effect. However, despite the rational arguments for the existence of these priming effects, precious few studies have been able to replicate these eye-catching results. Indeed, recent well-published failures to replicate these highly cited priming studies have thrust priming research into the limelight. Some commentators suggest that priming effects now need to be "exciting, eye-catching, even implausible" in order to find their way through a review process and into a publication (see Yong, 2012). For example, Shanks et al. (2013) failed to replicate the priming effect reported by Dijksterhuis and Knippenberg (1998). Similarly, across nine studies Doyen et al., (2012) failed to replicate the highly influential studies of Bargh et al. (1996). Overall, the lack of replications within psychology is worrying. These "non-replications have functioned as a welcome, though rather loud, wake-up call" (Dijksterhuis 2014 p. 72).

The publication bias within top ranked journals has discouraged replication studies. However, replication is the only solution for academic fraud. Indeed, the lack of replication efforts is one reason why high profile academic frauds went unchecked for so long (Crocker & Cooper, 2011; Roediger, 2012). As so few replication studies are published, non-replications do not currently serve as a diagnostic tool for fraud (Crocker & Cooper, 2011; Roediger, 2012). After analysing 40 fraud cases, Stroebe, Postmes, and Spears (2012) concluded that neither replications or meta-analyses played a significant role in fraud detection. Frauds are typically uncovered as the result of a whistleblowing colleague or graduate students (e.g. Deidrick Stapel). A review by DeCoster and Claypool (2004) found that studies originating from outside the U.S. and Canada tend to report larger priming effects and effect sizes. However, the authors suggest that the disparity in effect size is likely to be due to innocent and “idiosyncratic differences between U.S./Canadian labs and those (found) elsewhere” (DeCoster & Carpool (2004 p. 10).

4.6.2. Conceptual Replication

Historically, there has been little appetite for replications within the social sciences. Until recently, “scholars had virtually no career-related incentives to conduct close replications” (Finkel et al., 2015; p. 287). The prospects of replications being published in high ranking journals are low and consequently many researchers view replication efforts as a waste of both time and resources that could be profitably employed elsewhere (Finkel et al., 2015).

Within psychology, conceptual replications are more common than direct replications or “close replications” since they are deemed more theoretically

informative (Finkel et al., 2015). Stroebe and Strack (2014; p. 61) argue that “the true purpose of replications is a (repeated) test of a theoretical hypothesis rather than an assessment of the reliability of a particular experimental procedure”. Similarly, Bargh (2012) argues in favour of conceptual replications because they provide additional evidence of the psychological processes at work. In contrast, direct replications are theoretically impoverished by definition. However, the relaxed criteria for conceptual replications make them problematic. Simply put, the degrees of freedom afforded to a researcher are much larger and thus the potential for questionable research practices is increased.

4.6.3. Direct Replication

According to Stroebe and Strack (2014; p. 59) the recent frenzy around priming effects is due to “an epistemological misunderstanding that emphasizes the phenomenon instead of its underlying mechanisms”. They differentiate between the benefits of direct replication as a function of the type of research being undertaken. In applied research such as medical research there are obvious benefits to direct replication. However, when conducting basic research, the benefits of direct replication are lessened somewhat because here the goal is theory building (Cesario, 2014).

Many researchers consider direct replications to be outside the scope of the human sciences; “exact replication is an illusion” (Dijksterhuis, 2014; p. 73). The environmental, temporal, cultural and situational cues that preside over every experimental setting means that an exact replication of results is nigh on impossible (Brandt et al., 2014). This is especially evident in priming studies where a host of

extraneous variables can impinge on the replication effort. Unlike the gravitational pull of the earth, the gravitational pull of a prime is variable and context dependent (Stroebe & Strack, 2014). Simply put, social objects are variable and do not lend themselves to precise measurement in the same way that inanimate objects do (Loersch & Payne, 2014; Molden, 2014). Priming effects are nested within individual, cultural and contextual variables (Oyserman & Lee, 2007; Smeesters, Wheeler, & Kay, 2010; Wheeler, DeMarree, & Petty, 2014; Wyer, 2008). Consequently, some argue that the search for invariant priming effects is an unreasonable if not impossible task (Cesario, 2014). Indeed, the author argues that direct replication attempts should be confined to the lab that originally reported the priming effects. The author contends that such an approach would promote theory building by helping to systematically explore the boundary effects of the prime. Furthermore, the author asserts that efforts to replicate results in other labs are often premature and overly ambitious. However, for researchers interested in the phenomenon (including the present author) this is not always feasible. Consequently, most researchers are forced to use the facilities at their own institutions to carry out this priming research. In the current study large sample sizes were used to maximise the statistical power and chances of uncovering the priming effects and boundary conditions of these mindsets. The researcher contacted the author of the original study in order to obtain the same materials. Every effort was also made to control the environment. Studies were conducted either in small classrooms or large lecture halls. Xu and Wyer (2012) did not explicitly state the environment in which the study took place. For the offline studies (Studies 1, 2 and 3) the authors mention that “undergraduate students at the University of _____ participated to fulfil a course requirement”. However, the authors did not provide any

information regarding the environment in which the experiment took place. This is an example of the detail and transparency that replicators require but which is often found lacking within academic papers.

Cesario (2014) argues that unrealistically high replication expectations are misguided and need to be tempered by an understanding of the brain as a computational organ. Failed replications are uninformative and often create division between groups of researchers; “the believers will keep on believing, pointing at the successful replications and derogating the unsuccessful ones, whereas the nonbelievers will maintain their belief system drawing on the failed replications for support of their rejection of the original hypothesis” (Stroebe & Strack, 2014 p. 64). Failed replications also fuel the debate that many priming effects are Type 1 errors or are a fluke convergence of (un)known factors that result in highly capricious phenomena. Cesario (2014) contends that researchers (replicators) should exercise more restraint when framing the generalisability of the priming effects they have found. However, Xu and Wyer (2012) did not outline any potential limiting factors with regard to the effects they observed.

While Cesario (2014) acknowledges that multi-lab replications are necessary to establish generalisability he counsels that this is only advisable after the original researchers have had adequate time to test potential moderators and different boundary conditions. Such replication efforts would help to determine the range of effect size before replications are conducted elsewhere. He charges researchers with the responsibility of replicating their own studies and suggests that until now, many have been “deficient in meeting this responsibility” (Cesario, 2014; p. 40). This dereliction of duty has contributed to the current state of confusion regarding priming

effects (Cesario, 2014). The author argues that non-replications in other labs are the result of inappropriate expectations by researchers. These replicators have essentially skipped the queue and forged ahead without the proper theoretical development by the original researchers. However, not all researchers share Cesario's conservative views on direct replication. Simons (2014) calls for the widespread adoption of direct replication throughout the social sciences. The author reaffirms the positivist position that reproducibility is the cornerstone of science. Researchers must "Trust but Verify" via replication (Simons, 2014; p. 77). The author asserts that direct replication across independent labs is the only means of uncovering useful and generalizable effects that carry any theoretical weight or warrant any public interest. Direct replications across multiple labs allow researchers to isolate the signal from the noise and thus average the effects across different scenarios. Indeed, the primary task of a replication is to narrow effect sizes. The principle of daisy chaining effects using independent labs allows researchers to identify real and robust priming effects (Simons, 2014). The author cautions against the danger of explaining failed replications using the "assumed moderators" argument.

Brandt et al. (2014) note that a pure replication of any priming study is a theoretical impossibility given the huge number of extraneous variables that can influence typically fragile priming effects. This fact notwithstanding, researchers must aspire to this theoretical gold standard and use it as a starting point from which deviations from the original study are grudgingly conceded. Such replication efforts are known as "close replications".

The resurgence of the evidentiary value movement since 2011 has meant that close replications are now considered central to the future of social science. High

powered, close replications are deemed the best approach to test if priming effects are robust and reliable (Brandt et al., 2014). Indeed, some authors have busied themselves developing protocols or “recipes” for replication (Brandt et al., 2014). Brandt et al. (2014)'s “replication receipt” provides researchers with an instructive framework of questions that must be satisfactorily answered before a study may be deemed a close replication. The replication recipe also provides replicators with a prescriptive methodological framework for data collection and data analysis. The five core ingredients for a “*replication recipe*” are as follows: (1) carefully define the effects and methods that the researcher intends to replicate; (2) follow as exactly as possible the methods of the original study (including participant recruitment, instructions, stimuli, measures, procedures, and analyses); (3) have high statistical power; (4) make complete details about the replication available, so that interested experts can fully evaluate the replication attempt (or attempt another replication themselves) and (5) evaluate replication results and compare them critically to the results of the original study (Brandt et al. 2014).

The current research adopted a number of the important recommendations outlined by the replication recipe. For example, the authors of the original study were contacted so that access to the original materials could be gained. This research also used the same priming procedure as the original study. However, certain elements of the study were different. For example, while Xu and Wyer used a convenience sample of American participants, the current studies primarily used a convenience sample of Irish participants. Thus, the current research tests if bolstering and counterarguing mindsets can be replicated in a non-American consumer culture. Past research has shown that culture has powerful effects on a wide range of psychology phenomena

(for a review see Henrich, Heine, & Norenzayan, 2010) including mindset priming studies (Oyserman & Lee, 2007). In order to remove some of these confounds the author also ran two studies on Amazon Mturk. In one study an exclusively American sample was recruited. One of the notable strengths of the current research is the comparatively large sample sizes ranging from Study 1 (n =134), Study 2 (n = 233), Study 3 (n =344), Study 4 (n = 268), Study 5 (n = 138) and Study 6 (n = 290) provide sample sizes that often twice in size than those used by Xu and Wyer (2012). Relatively few close replications are reported within the field of psychology (Makel et al., 2012). Close replications serve as a tool for unearthing false positive results and also allow researchers to estimate a general effect size for a priming phenomenon. The (dis)confirming results that accrue provide valuable theoretical building blocks for researchers. Brandt et al. (2014) suggests that replications of priming studies are worthwhile if (i) the effect has a significant theoretical importance to the field or (ii) the phenomena has a direct or indirect impact on society. The authors also note that replications that extend the original study are valuable as they help with the identification of boundary conditions.

Brandt et al. (2014) recommend that all materials, data and syntax files are made available to journal editors and reviewers. Such transparency permits reviewers to assess exactly how close the replication really was. It also allows readers to confidently identify boundary conditions that might become evident when multiple replication studies are attempted.

Convincing replications should boast sufficient statistical power in order to convince reviewers (Simonsohn, 2015). Brandt et al. (2014) advise that researchers should err on the side of caution (high statistical power) since past research has found

that published studies frequently over-estimate the true effect size (Greenwald, 1975). Cohen (1992) recommends that statistical power should be at least .80. However, Brandt et al (2014) make the point that a successful replication is not necessarily defined by the production of statistically significant results. Indeed, in juxtaposition to the editorial preferences of many psychology journals, the recent statement by the American Psychology Association (APA) has highlighted the limited utility of p values and their over-reliance in psychological science (Wasserstein & Lazar, 2016). A second issue relates to the estimated likelihood of replication. Some argue that the considerable theoretical and methodological difficulties that surround replication studies necessitate new statistical approaches that depart from null hypothesis testing (Killeen, 2005). Although some authors have challenged the validity of these techniques (e.g. Maraun & Gabriel, 2010) there is a growing consensus for the appropriateness of new statistical approaches and the merits of new statistical tools (Cumming, 2005; Lecoutre, Lecoutre, & Poitevineau, 2010).

Researchers who replicate a study should be cognizant of the limitations of their study and report any methodological issues that may have affected the results. Brandt et al. (2014) recommend the application of more stringent criteria for replications compared to those applied in the original study. They however acknowledge that shortcomings in the design of the original study (weak measures, the presence of confounds etc.) will also be transferred to the replication study by virtue of the definitional requirements of a close replication. The authors suggest that replicators should anticipate differences in both the size and direction of the priming effects prior to the replication taking place.

Priming effects are fickle and often challenging to successfully replicate. Daniel Kahneman suggests that conducting a successful priming study is a skill akin to directing a “theatre performance” and requires “having a knack that not all of us have” (Yong, 2012; p. 299). Priming research is a field of research where skill, intuition and “craft” are required to successfully operationalise a priming study. This craft is gained from years of experience and passed down from mentor to student (Dijsterhuis et al. 2014). The craft associated with conducting successful priming research places high demands upon junior researchers starting into the field. Unlike other areas of research, a solid knowledge base and theoretical appreciation for experimental design may not be sufficient. Compared to researchers working in a psychology lab, those who work independently do so at a distinct disadvantage. The under-developed literature on priming methodologies adds additional gradient to the steep learning curve faced by fledgling social scientists required to work outside the cloistered environs of a research group. Even with lab facilities and easy access to expertise, priming effects are still not assured. Priming effects are often a fortuitous combination of variables; “more often than not, a researcher is accidentally hitting on the right level of an important moderating variable...to obtain a priming effect” (Cesario, 2014 p. 44). Replicators must be mindful of potentially confounding factors such as mood (e.g. Schwarz & Clore, 1983) and of the numerous moderating factors that need to be considered. However, the identification of new moderators remains central to future theory building efforts and is critical to the future of priming research (Dijsterhuis et al. 2014). Table 4.1 at the end of this chapter provides a list of moderators that have already been found to influence the strength and direction of priming effects.

This chapter has addressed a number of important issues and prepares the ground for the upcoming empirical chapter. First, the chapter has provided an overview and rationale for the current research project. It has achieved this by discussing the pressing need for greater replication efforts within psychology and by highlighting the need for greater theory building and moderator testing within consumer psychology. Second, the chapter has discussed the broad institutional barriers that continue to impede the pursuit of both these types of research. Third, in addition to proving a broad rationale for the current research project the chapter has also outlined the rationale for the overarching research hypotheses in the studies. Finally, the chapter has discussed the specific methodological challenges associated with priming research. These studies are now reported in Chapter 5.

Table 4.1*Moderators of Priming Effects*

Moderator	Authors	Finding
Awareness	Dijksterhuis, Bargh and Miedema, (2000); Higgins et al., 1977)	Awareness of prime inhibits priming effects
Perceived closeness to target	Ledgerwood and Chaiken (2007)	Feelings close (distant) to the target (elderly people) induces assimilative (contrasts) effects
Forewarning	Demarree et al. (2012); Verwijmeren et al. (2013)	Forewarning inhibits priming effects
Internal State Awareness	Anderson, Bohon and Berrigan (1996); Mittal and Balasubramanian (1987)	Low internal state awareness strengthens priming effects
Ironic effects	Macrae, Bodenhausen and Milne (1998)	Instructions to suppress stereotypes primes stereotypical behaviours
Motivation / Distraction	Martin, Seta and Crelia (1990)	Blatant priming produces contrast effects. However, distraction promoted priming effects
Need for Cognition	Martin, Seta and Crelia (1990)	Low (high) need for cognition increases (decreases) priming effects
Perspective taking	Galinsky, Wang and Ku (2008) Wheeler, Jarvis and Petty (2001)	Low (high) perspective taking weakens (strengthens) priming effects
Power	Demarree et al.(2012)	Low (high) power weakens (strengthens) priming effects
Prime extremity: (stereotype vs. exemplar)	Dijksterhuis and van Knippenberg (1998); Herr (1986)	Stereotypes produce assimilative effects. Extreme exemplars induce contrast effects
Prime relevance	Bargh et al. (1996)	Prime must be applicable to the situation
Private self-consciousness	Dijksterhuis and van Knippenberg (2000); Wheeler, Morrison, DeMarree, and Petty, 2007); Hull, Slone, Meteyer, and Matthews (2002)	High private self-consciousness strengthens priming effects (Dijksterhuis & van Knippenberg, 2000) or may weaken priming effects (Hull et al., 2002).
Self-monitoring	Demarree et al.(2012); Wheeler, DeMarree and Petty (2008)	Low (high) self-monitoring strengthens (weakens) priming effects
Self-reflectiveness	Anderson, Bohon and Berrigan (1996); Mittal and Balasubramanian (1987)	High self-reflectiveness strengthens priming effects
Self-concept consistency	Kaplan (1972)	Low (high) Self-concept consistency strengthens (weakens) priming effects
Self-focus	Dijksterhuis, Bargh and Miedema, (2000); DeMarree and Loersch (2009)	Focusing on self (others) induces priming effects on relating to self (others).
Situational disincentives / goal conflict	Macrae and Johnston (1998)	Situational disincentives or completing goals inhibit priming effects
Social value orientation	Liebrand (1984)	High (low) social value orientation decreases (increases) priming effects
Internal state awareness	Wheeler, Morrison et al., (2007)	Low (high) state awareness induces (inhibits) priming effects

CHAPTER 5: BOLSTERING AND COUNTERARGUING MINDSETS

5.1. Study 1

5.1.1. Introduction to Study

Study 1 aimed to replicate the “carryover effects” of a counterarguing mindset. The carryover effects of a mindset represent the temporary retention of cognitive procedures in conceptually similar, yet unrelated future domains (Xu & Wyer, 2012). The counterarguing mindset has been found to adversely affect individuals’ evaluative judgements of persuasive appeals (advert persuasiveness, advert appeal) and the products featured within them (hotel attractiveness) (see Xu & Wyer, 2012, Study 1).

To the author’s knowledge, no study has replicated the carryover effects of a counterarguing mindset. In accordance with the original study, it was hypothesised that the activation of a counterarguing mindset would predispose participants to refute the implications of the persuasive appeal. Specifically, it was hypothesised that the counterarguing mindset would decrease participants’ overall evaluation of an advert (advert persuasiveness and advert appeal) and the attractiveness of the product (i.e. hotel) featured within it. This study also aimed to extend the work of Xu and Wyer by testing the hypothesis that a counterarguing mindset has the power to adversely affect individuals’ behavioural responsiveness (i.e. their willingness to pay for a one-night hotel stay, their willingness to volunteer for future studies, the number of minutes volunteered for future studies). It was hypothesised that a counterarguing mindset would negatively affect participants’ cognitive responses to the advert by increasing the number of negative thoughts generated and decreasing the number of positive

thoughts generated. Importantly, the study also aimed to test whether the carryover effects of a counterarguing mindset are moderated by an individual's chronic avoidance motivation (BIS). Past research has demonstrated that avoidance tendencies are associated with high levels of message scrutiny and defensive message processing (Gerend & Shepherd, 2007). It thus follows that counterarguing thoughts are likely to be highly cognitively accessible among individuals exhibiting a strong avoidance orientation. Accordingly, it was hypothesised that individuals exhibiting strong avoidance motivation would exhibit particularly strong carryover effects when primed with a counterarguing mindset³

It has been proposed that bolstering and counterarguing mindsets only influence behaviours which would not occur in the absence of the mindset (Xu & Wyer, 2012). For example, Xu and Wyer (2012) found that counterarguing (bolstering) mindsets only exerted their deflating (inflating) effects on evaluative judgements when the target stimulus is positive (i.e. hotel; Study 1) or negative (i.e. unappetising, exotic food; Study 2). Since the target stimulus in this study is positive (i.e. hotel advert), it is anticipated that there will be no differences between participants' evaluative judgements in the control condition and participants'

³The study also tested if an individual's natural proclivity to counterargue or bolster moderates the carryover effects of these mindsets. The Bolster Counterargue Scale (BCS) by Briñol, Rucker, Tormala, and Petty (2004) was included for exploratory purposes to test this assumption. It was assumed that individuals who exhibit a strong preference towards counterarguing persuasive information would exhibit particularly strong carryover effects when primed with a counterarguing mindset. Individuals who exhibit high scores on either subscale are less likely to demonstrate attitude change after encountering a persuasive communication (Briñol et al., 2004). The BCS consists of two 6-item subscales; a bolstering subscale and a counterarguing subscale. An example item for bolstering is "*When someone challenges my beliefs, I remind myself why my beliefs are important to me*"; an example item for counterarguing "*When someone challenges my beliefs, I enjoy disputing what they have to say*" respectively. Participants' responses on both subscales were measured using a 4-point rating scale ranging from 1, *extremely unlike me* to 4, *extremely like me*. The BCS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .79.

evaluative judgements in the bolstering condition. However, for the sake of completeness and consistency, the full design from Xu and Wyer (2012 Study 1) was employed. Participants were randomly assigned to counterarguing, bolstering and control conditions. The hypotheses relating to participants' perceptual, behavioural and cognitive responses are formalised below:

Hypotheses 1a-b: Compared to participants in the control and bolstering conditions, participants in the counterarguing condition will generate less favourable overall evaluations (i.e. as a composite measure of persuasiveness and appeal) of the hotel advert (H1a) and generate less favourable product evaluations of the hotel (i.e. hotel attractiveness) (H1b).

Hypotheses 2a-d: Compared to participants in control and bolstering conditions, participants in the counterarguing condition will be less willing to pay for a one-night hotel stay (H2a), be less willing to volunteer for future research (H2b) and be less willing to volunteer their time (i.e. minutes) for future studies (H2c).

Hypotheses 3a-b: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate more positive thoughts (H3a) and fewer negative thoughts (H3b) in response to the advert.

Hypotheses 4a-b: The carryover effects of a counterarguing mindset on participants' overall evaluations of the hotel advert (i.e. as a composite measure of persuasiveness and appeal) (H4a) and participants' evaluations of the product (i.e. hotel attractiveness) (H4b), will be particularly pronounced among participants exhibiting strong avoidance motivation (high BIS scores).

Hypotheses 4c-f: The carryover effects of a counterarguing mindset on behavioural variables; willingness to pay for a one-night hotel stay (H4c), willingness to volunteer for future studies (H4d) and the number of minutes volunteered for future studies (H4e) will be particularly pronounced among participants exhibiting strong avoidance motivation (high BIS scores).

5.1.2. Sample and Study Design

The present study employed the same experimental design employed by Xu and Wyer (2012). Specifically, the study employed a 3 (mindset priming: bolstering vs. counterarguing vs. control) x 2 (favourableness of vacation spot: high vs. moderate) between-subjects design. In total, 134 Masters students from Dublin City University (male = 72, female = 62, unspecified = 1) participated in the study as a partial fulfilment of a Personal Opportunity for Development (POD) module. The mean age of participants was 23.57 years ($SD = 3.34$).

Procedure. The data was collected over multiple sessions during the course of one evening in a small lecture room in Dublin City University Business School. The group sizes ranged between 10 and 30 participants in these data collection sessions.

Participants were asked to partake in two ostensibly different studies. The first study involved a writing task (priming procedure) in which participants were randomly assigned to one of three conditions; control, bolstering or counterarguing conditions.

Participants in the experimental conditions were asked to write three short essays discussing their views on three propositions. These popular (unpopular) propositions were designed to activate bolstering (counterarguing) cognitive procedures by inducing participants to generate supporting (opposing) arguments. For example, participants in the counterarguing condition wrote about their views on the proposition “*Dublin City University should increase tuition fees in 2013*”. In contrast, participants in the bolstering condition encountered the same proposition albeit with a reversed polarity (i.e. “*Dublin City University should not increase tuition fees in 2013*”). This priming procedure was almost identical to the priming procedure used in the original study by Xu and Wyer (2012, Study 1) which referenced the *University of Illinois* in the priming proposition. In the current study, the *University of Illinois* was replaced with *Dublin City University (DCU)* in order to increase the personal relevance of the priming proposition for the DCU student sample. Participants in the control condition were asked to write about neutral topics (i.e. trees, Italy, computers). Following the 15-minute priming procedure, participants were then asked to evaluate one of two adverts in a second, ostensibly unrelated study. Once they had completed both studies they were asked to put all materials back into the envelope and return it to the researcher. Participants were thanked for their time. Once the data collection for the study was completed all participants were sent a debrief letter that informed students of the true nature of the research and the aims of the study. This letter provided the contact details of the Principal Investigator to ensure that participants

could discuss any concerns they may have. The letter also contained the contact details of the Research Ethics Committee within Dublin City University.

Independent Variables

Advert type. Participants were exposed to one of two adverts. Advert 1 promoted a highly attractive vacation spot. The advert featured an Igloo hotel in Switzerland. This advert was used in the original Xu and Wyer (2012) study. Advert 2 promoted a moderately attractive, Scottish hotel. In the original study (Xu & Wyer, Study 1), the authors used an advert of Milwaukee as the moderately attractive vacation spot. However, Irish participants were not familiar with Milwaukee, so an advert was designed to depict a moderately attractive hotel. Advert 1 and Advert 2 were designed to share similar structural, design and layout characteristics. Both adverts provided information relating to the accommodation options, service experience, dining options and local amenities on offer. Each advert included two photos of the hotel; a photo of the hotel's exterior and a photo of a bedroom within the hotel (see Appendix H).

Prior to the main experiments, 50 students from Dublin City University were asked to evaluate either the Igloo hotel advert (Advert 1) or the Scottish "Star" hotel advert (Advert 2). Participants rated the advert on a 10-point rating scale ranging from 1 "*not at all*" (persuasive, appealing) to 10, "*very*" (persuasive, appealing). Independent-sample t-tests were conducted to compare the differences in advert persuasiveness, advert appeal and hotel attractiveness. The results confirmed that the manipulation of the adverts was successful. As expected, Advert 1 was rated as more persuasive than the Advert 2 ($M = 6.32, SD = 2.30$) vs. ($M = 4.40, SD = 1.89$); $t(48) =$

3.22, $p = .002$, two-tailed. Advert 1 ($M = 6.64$, $SD = 2.20$) was also rated as more appealing than Advert 2 ($M = 4.40$, $SD = 1.80$); $t(48) = 3.94$, $p = .000$, two-tailed. As expected, Advert 1 also received higher ratings of vacation spot attractiveness than Advert 2, ($M = 6.92$, $SD = 2.22$) vs. ($M = 4.36$, $SD = 2.12$); $t(48) = 4.17$, $p = .000$, two-tailed. Finally, respondents were willing to pay significantly more for a one night stay in the Igloo hotel ($M = 108.48$, $SD = 45.43$) than for a one night stay in the Star hotel ($M = 44.66$, $SD = 16.01$), $t(46) = 6.60$, $p = .000$ two-tailed.

In summary, the results of the pilot study demonstrate that both advert evaluations and perceptions of vacation spots were successfully manipulated by the adverts. Xu and Wyer (2012) did not find any differential effects of mindset between moderate and highly attractive persuasive appeals. However, for the sake of consistency, the same experimental design (featuring both advert types) was adopted in the current study.

Priming. The mindset priming procedure employed by Xu and Wyer (2012) was used in the study. Participants were asked to undertake a writing task in which they were randomly assigned to one of three conditions: a bolstering, a counterarguing or a control condition. Participants in the bolstering (counterarguing) condition were asked to write 3 short essays relating to their views on three popular (unpopular) propositions. Those in the counterarguing condition were asked to respond to the following three propositions; “*Reading does not enrich the mind*”, “*The academic year should be extended by one month*” and “*Dublin City University should increase tuition fees in 2013*”. Those in the bolstering group encountered propositions with a reversed polarity to those items above (e.g. “*The academic year should not be extended by one month*”). Participants in the control group were asked

to write about three neutral subjects (i.e. apple, Italy, trees). Participants were again given 15 minutes to complete the task. Once participants completed the priming task they then began a second, ostensibly unrelated advertising study in which they evaluated the target stimulus (i.e. hotel advert).

Dependent Variables

Perceptual variables

Advert evaluation. Participants rated advert persuasiveness and advert appeal on a 10-point Likert scale ranging from 1, *not at all*, to 10, *very*. The two variables showed a strong correlation, $r = .86$ and therefore an advert evaluation composite measure was computed by combining advert persuasiveness and advert appeal scores provided by participants. Importantly, this combined measure for advert evaluation was also used in the original study by Xu and Wyer (2012).

Product attractiveness. Participants' perceptions of hotel attractiveness were assessed using a 10-point Likert scale ranging from 1, *not at all*, to 10, *very*.

Behavioural Variables

Three questions were used to assess participants' behavioural responses relating to volunteerism and willingness to pay. Two of the three questions used an open question format whereby participants were free to provide unprompted responses.

Willingness to volunteer. Participants were asked to indicate (Yes/No) if they were willing to volunteer for future research studies. Specifically, the question read as follows: "*Would you be willing to participate in future research studies*"?

Participants were asked to indicate the number of minutes they would be willing to volunteer for future research studies; *“If yes (to the above question), please specify the amount of time you are willing to volunteer for future studies.”*

Willingness to pay. Participants were asked to indicate the amount of money they would be willing to pay for a one night stay in the hotel; *“How much would you be willing to pay for a one night stay in this hotel”.*

Cognitive Variables

Number of Positive/Negative thoughts generated. A thought listing task was used to assess participants’ responses to the advert. Positive thoughts and negative thoughts were subsequently coded by two independent coders who were blind to the experimental hypotheses. Specifically, the valence of participants’ evaluative judgement regarding the advertised product (i.e. hotel) determined how the thoughts were coded. For example, a participant who wrote “the hotel looks charming” was deemed to have made a positive evaluative judgement. Conversely, a participant who wrote “the interior looks bleak” was deemed to have made a negative evaluative judgement. Each positive (conversely negative) evaluative judgement was coded as one positive (conversely negative) thought.

Measuring Instruments

Behavioural Inhibition System/Behavioural Activation System (BIS/BAS).

All participants were asked to complete a 20-item, self-report measure that assessed individual differences in approach and avoidance motivation (Carver & White, 1994; Elliot & Thrash, 2002). The BIS controls avoidance or “aversive” motivation. This

system is sensitive to negative reinforcement arising from threats or negative stimuli such as punishment cues. The BIS is measured using a 7-item subscale within the 20-item measure. An example item from this scale is “*I worry about making mistakes*”. In contrast, BAS controls approach or “appetitive” motivation. This system is sensitive to stimuli associated with reward and non-punishment. BAS is measured using the remaining 13 items that constitute three subscales; BAS Reward Responsiveness, BAS Drive and BAS Fun Seeking (Carver & White, 1994). Example items from each of these respective scales are “*It would excite me to win a contest*”, “*I go out of my way to get things I want*” and “*I crave excitement and new sensations*”, respectively. Participants’ responses were measured on a 4-point rating scale ranging from 1 *strongly disagree* to 4, *strong agree* for all items. The BIS/BAS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .71.

Positive and Negative Affect Schedule (PANAS). Mindsets are cognitive phenomena that exert influence independently of mood (Wyer & Xu, 2010). However, strong theoretical linkages exist between approach (avoidance) motivational orientation and positive (negative) affect (see Chapter 3). To control for mood in the present study, all participants completed a Positive and Negative Affect Schedule (PANAS). The PANAS is a reliable and valid 20-item, self-report measure that assesses an individual’s positive affect (PA) and negative affect (NA) (Crawford & Henry 2004; Watson, Clark, & Tellegen, 1988). PA and NA were assessed using 10 separate items to measure positive and negative affect. For example, participants were asked to indicate their mood by assigning values to descriptors that reflected their response to the following question “*to what extent have they felt this way during the*

past week". Descriptors such as "interested" and "proud" are used to measure PA. Descriptors such as "hostile" or "nervous" are used to measure NA. Responses are measured on a 5-point rating scale ranging from 1, *very slightly, not at all* to 5, *extremely*. The PANAS demonstrated reasonable internal reliability in the current study with a Cronbach alpha coefficient of .69. The subscales measuring positive affect (PA) and negative affect (NA) both demonstrated high internal reliability with a Cronbach alpha coefficient of .84 and .78 respectively.

Bolster Counterargue Scale (BCS). Participants were asked to complete a Bolster Counterargue scale (BCS) in order to assess their natural tendency to bolster or counterargue. This measure was included for explorative purposes.⁴

Thought listing. Participants were also asked to complete a thought listing exercise⁵ immediately after exposure to the advert. Research has demonstrated that thought listing is a valuable instrument when assessing cognitive processes and cognitions (Cacioppo, von Hippel, & Ernst, 1997).

5.1.3. Results

A series of full factorial, Analyses of Covariance (ANCOVA) were conducted to test for the effect of mindset on the perceptual, behavioural and cognitive

⁴ Individuals who exhibit high scores on either subscale are less likely to demonstrate attitude change after encountering a persuasive communication (Briñol et al., 2004). The BCS consists of two 6-item subscales; a bolstering subscale and a counterarguing subscale. An example item for bolstering is "When someone challenges my beliefs, I remind myself why my beliefs are important to me"; an example item for counterarguing "When someone challenges my beliefs, I enjoy disputing what they have to say" respectively. Participants' responses on both subscales were measured using a 4-point rating scale ranging from 1, *extremely unlike me* to 4, *extremely like me*. The BCS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .79.

⁵ "I am interested in finding out about the thoughts that went through your mind as you read the information about the hotel. Please share any thoughts you had while you were reading the advert of the hotel. Please write your thoughts in the section below. Do not worry about spelling or grammar. Just make sure you express the main idea of each thought."

dependent variables. A series of simple, one-sided contrasts were also conducted for each set of analysis. Perceptual variables relating to advert evaluation⁶ and product attractiveness (i.e. hotel attractiveness) were treated as dependent variables. Behavioural variables (i.e. willingness to pay for a one-night hotel stay, willingness to volunteer for future studies (Y/N) and number of minutes volunteered for future research) and cognitive variables (positive thoughts, negative thoughts) were also treated as dependent variables. Measures of positive affect and negative affect were included as covariates in the analyses to control for mood effects (see Schwarz & Clore, 1983). A correlation matrix for the focal variables is provided in Table 7.1. The means and standard deviations for the perceptual, behavioural and cognitive variables appear in Table 7.2, Table 7.3, and Table 7.4 respectively (see Appendix B).

Advert evaluation.⁷ There was main effect of advert type, $F(1, 86) = 54.74, p = .000, \eta_p^2 = .389$ on participant's overall evaluation of the advert. Participants

⁶ In the interest of full transparency, the results of the priming on persuasiveness and appeal will be reported in footnotes in all studies. However, in the interest of parsimony and to mirror the approach adopted by Xu and Wyer (2012) both measures will be combined to form a composite measure of participants' overall evaluative judgement of the persuasive appeal and reported. The effects of priming on this measure will be reported in the main text henceforth.

⁷ **Advert persuasiveness.** There was a main effect of advert type on participants ratings of advert persuasiveness, $F(1,86) = 30.46, p = .000$, partial eta squared = .262. Participants exposed to Advert 1 ($M = 6.24, SD = 2.06$) rated the hotel advert as more persuasive than participants exposed to the Advert 2 ($M = 3.89, SD = 1.77$). However, there was no main effect of priming on ratings of advert persuasiveness $F(2, 86) = 1.28, p = .283$. Participants in the counterarguing condition ($M = 5.15, SD = 2.11$), control condition ($M = 4.68, SD = 2.27$) and bolstering condition ($M = 5.44, SD = 2.37$) rated the adverts as similarly persuasive, all $ps \geq .11$.

Advert appeal. There was a main effect of advert type on participant's ratings of advert appeal, $F(1,86) = 74.28, p = .000$, partial eta squared = .463. Participants exposed to Advert 1 ($M = 6.90, SD = 1.98$) rated the hotel advert as more appealing than participants exposed to the Advert 2 ($M = 3.54, SD = 1.84$). However, there was no main effect of priming on ratings of advert appeal, $F(2, 86) = .40, p = .673$. Participants in the counterarguing condition ($M = 5.36, SD = 2.46$), control condition ($M = 5.00, SD = 2.57$) and bolstering condition ($M = 5.44, SD = 2.64$) rated the adverts as similarly appealing, all $ps \geq .41$.

exposed to the Igloo Hotel advert ($M = 6.56$, $SD = 1.91$) rated the advert as significantly more favourably than participants exposed to the Star Hotel advert ($M = 3.71$, $SD = 1.71$). However, there was no main effect of priming on participants evaluations of the adverts, $F(2, 86) = .74$, $p = .480$. Participants in the counterarguing condition ($M = 5.26$, $SD = 2.21$), control condition ($M = 4.83$, $SD = 2.30$) and bolstering condition ($M = 5.43$, $SD = 2.43$) generated similar evaluations of the advert. One-sided contrasts were not significant, all $ps \geq .23$. Thus H1a was not supported.

Product attractiveness. There was a main effect of advert type on participants rating of hotel attractiveness, $F(1, 86) = 63.50$, $p = .000$, $\eta_p^2 = .425$. Participants exposed to the Igloo Hotel in Advert 1 ($M = 6.59$, $SD = 2.06$) rated the hotel as being significantly more attractive than participants exposed to the Star Hotel in Advert 2 ($M = 3.50$, $SD = 1.80$). However, there was no main effect of priming on participants ratings of hotel attractiveness, $F(2, 86) = 4.37$, $p = .648$. Participants in the counterarguing condition ($M = 5.49$, $SD = 2.50$), control condition ($M = 4.76$, $SD = 2.17$) and bolstering condition ($M = 5.00$, $SD = 2.69$) rated the hotel as similarly attractive, all $ps \geq .35$. Thus H1b was not supported.

Willingness to pay. There was a main effect of advert type on participants' willingness to pay for a one night hotel stay, $F(1, 79) = 48.23$, $p = .000$, $\eta_p^2 = .379$. Participants exposed to Advert 1 ($M = 9.84$, $SD = 48.26$) were willing to pay significantly more for a one-night hotel stay than participants exposed to the Advert 2 ($M = 42.19$, $SD = 15.33$). However, there was a no main effect of priming $F(2, 79) = .49$, $p = .615$. Participants in the counterarguing condition ($M = 74.65$, $SD = 45.81$), control condition ($M = 71.03$, $SD = 55.68$) and bolstering condition ($M = 61.77$, SD

= 30.79) did not exhibit any difference in their willingness to pay for a one-night hotel stay, all p s = \geq .33. Thus H2a was not supported.

Volunteerism. Analysis revealed that participants in the counterarguing condition (96%), control condition (95%) and bolstering condition (93%) were equally willing to volunteer for future research. A Pearson Chi-Square test of independence indicated there was no significant association between priming condition and volunteerism, $X^2(2, n = 132) = .26, p = .883, Cramer's V = .26$. The results of the logistical regression predicting participant's willingness to volunteer for future studies are reported in Table 7.5 (see Appendix B). Thus H2b was not supported.

Number of minutes volunteered. There was no main effect of advert type $F(1, 76) = .71, p = .402$. However, there was a marginally significant effect of priming on the number of minutes that participants were willing to volunteer for future studies, $F(2, 76) = 3.08, p = .052, \eta_p^2 = .075$. Surprising, participants in the bolstering condition ($M = 38.08, SD = 20.21$) were significantly less willing to volunteer time for future studies when compared to participants in the control condition ($M = 49.67, SD = 22.43$), $p = .054$, and participants in the counterarguing condition ($M = 50.50, SD = 29.57$), $p = .029$. Thus H2c was not supported.

Positive thoughts. There was a main effect of advert type on the number of positive thoughts generated by participants, $F(1, 116) = 9.88, p = .002, \eta_p^2 = .080$. Participants exposed to Advert 1 ($M = 2.02, SD = 1.77$) generated more positive thoughts than participants who were exposed to Advert 2 ($M = 1.09, SD = 1.34$). However, there was no main effect of priming on the number of positive thoughts

generated by participants, $F(2, 116) = .01, p = .993$. Participants in the counterarguing condition ($M = 1.58, SD = 1.73$) generated a similar number of positive thoughts compared to participants in the control condition ($M = 1.53, SD = 1.63$) and compared to participants in the bolstering condition ($M = 1.60, SD = 1.59$). Thus H3a was not supported.

Negative thoughts. There was a main effect of advert type on the number of negative thoughts generated by participants, $F(1, 116) = 33.97, p = .000, \eta_p^2 = .230$. Participants exposed to Advert 2 ($M = 2.79, SD = 1.81$) generated more negative thoughts than participants who were exposed to Advert 1 ($M = 1.17, SD = 1.20$). However, there was no main effect of priming on the number of negative thoughts generated by participants, $F(2, 116) = 0.65, p = .523$. Participants in the counterarguing condition ($M = 1.98, SD = 1.79$) generated a similar number of negative thoughts to participants in the control condition ($M = 2.11, SD = 1.70$) and participants in the bolstering condition ($M = 1.77, SD = 1.69$). Thus H3b was not supported.

Moderation and Simple Slopes Analysis

It was hypothesised that the carryover effects of a counterarguing mindset on perceptual variables (see H4a-b) and behavioural variables (H4c-f) would be moderated by an individual's avoidance motivation. Specifically, it was expected that individuals exhibiting strong avoidance motivation (high BIS scores) would exhibit more pronounced carryover effects than individuals exhibiting weak avoidance motivation (low BIS scores). However, these two-way interactions were not significant for any of the dependent variables. The results of the moderated regression analysis

assessing the influence of avoidance motivation on priming effects appear in Table 7.6 (see Appendix B). Thus H4a-f were not supported.

5.1.4. Discussion

The current study attempted to (a) replicate the carryover effects of a counterarguing mindset and (b) test the moderating effect of BIS on these carryover effects. Specifically, the present study aimed to investigate the impact of a counterarguing mindset on perceptual measures: advert evaluations (composite measure of advert persuasiveness and advert appeal), product evaluations (i.e. hotel attractiveness), behavioural measures (willingness to pay for a hotel stay (€), willingness to volunteer for future studies (Yes/No), number of minutes volunteered for future studies) and cognitive measures (number of positive thoughts generated, number of negative thoughts generated). The study employed the same priming procedure used by Xu and Wyer (2012). Furthermore, identical (Advert 1: highly attractive hotel) or similarly attractive (Advert 2: moderately attractive hotel) target materials were used in the current study. However, the study failed to replicate the mindset priming effects reported by Xu and Wyer (2012). As expected, and in accordance with pre-test results, participants generally rated Advert 1 as being more favourable than Advert 2. However, analysis revealed no differences in participants' overall advert evaluations (composite measure of advert persuasiveness and advert appeal), product evaluations (hotel attractiveness) or behavioural responses (willing to pay for a one night stay in the hotel). Interestingly, the bolstering mindset appears to have influenced behavioural compliance. Participants in the bolstering condition were less willing to volunteer their time for future research when compared to participants

in the control and counterarguing conditions. This result conflicts with the expectations of the researcher because it conflicts with the results of Xu and Wyer on two grounds. Firstly, Xu and Wyer (2012) suggest that a bolstering mindset only influences evaluative judgements of a negative target stimulus (i.e. not positive target stimulus such as a hotel advert). Second, the deflatory effect of the bolstering mindset in this study suggests a contrast effect or “boomerang effect”. Xu and Wyer suggested that such an effect was improbable given the mechanics of the bolstering mindset. According to Xu and Wyer a bolstering mindset is only believed to influence evaluations of unattractive stimuli and have no effect on evaluations of attractive stimuli such as the hotel adverts used in this study. This result is difficult to explain when taken in isolation. The failure of the priming procedure in general raises concerns regarding the robustness of the mindset priming procedure more generally. However, there is a possible explanation for the non-replication.

The failure of the current study to reproduce the priming effects reported by Xu and Wyer (2012) might be traced back to the questions used in the procedural priming procedure. A manipulation check revealed that the priming procedure was unsuccessful because it did not uniformly induce counterarguing or bolstering responses. For example, in the bolstering condition only 14 of the 45 participants (37%) agreed with all three propositions. Similarly, in the counterarguing condition only 18 of the 48 participants (37%) disagreed with all three propositions. These figures compare unfavourably with those of Xu and Wyer (2012) who found that 79% of participants in the bolstering condition and 76% of participants in the counterarguing condition provided the expected bolstering or counterarguing responses for all three propositions. A subsequent examination of the thought listing

data and demographic composition of the sample revealed some insights that help to explain the failure of the priming procedure.

The participants in the current study were Masters students. These participants were most likely older ($M = 24$ years old) and perhaps more mature than the undergraduate students ($M = \text{unknown}$) sampled in the Xu and Wyer study. It is therefore not altogether surprising that the master's students offered more considered opinions and nuanced views in response to the priming propositions. For example, upon reviewing the participants' essays it became clear that the master students placed a high value on education. This served to reduce participants' price sensitivity towards college fees and thus undermined the priming potential of the proposition designed to induce counterarguing (i.e. DCU should increase tuition fees). Rather than counterarguing the proposition, participants often adopted a neutral perspective and acknowledged that the proposition "has advantages and disadvantages". Other participants were even amenable to increased tuition fees if additional services were provided: "the extra fee should only be applied if we the students gain by at least the amount of the added cost". Participants' appetite for education, while laudable, would have hampered the formation of a counterarguing mindset because the anticipated counterarguing response was not forthcoming. Conversely, some participants in the bolstering condition went so far as to counterargue the proposition that was designed to promote bolstering (i.e. "DCU should not increase tuition fees"): "I disagree with this proposal... Irish universities are falling behind in the world rankings consecutively every year". Such examples of unbiased or measured responses were not anticipated and served to undermine the effectiveness of the priming procedure. This unexpected response pattern was not confined to just one priming proposition.

Contrary to expectation, participants were also quite receptive to the counterattitudinal proposition of an additional month of college. Indeed, many of the participants believed that an additional month of college would improve their ability to revise their coursework: “If the academic year were increased by one month I think that this would allow more revision time before exams”. Similar sentiments were expressed by other participants who also believed an additional month of college would alleviate exam pressures: “I would say that the academic year should be extended...students often find themselves under tremendous pressure due to the short academic year”. In short, the failed procedural priming procedure in the current study was due, in part, to the lack of bias expressed by participants. It was anticipated that participants in the bolstering (counterarguing) conditions would be induced to provide strong, one-sided arguments in favour (opposition) to the ostensibly popular (unpopular) propositions. Instead, many participants provided balanced, two-sided arguments which considering both the pros and cons of the proposition. This seems to suggest that higher education may well fulfil its lofty aim of developing critical thinking skills. However, the generation of balanced, two-sided arguments is likely to have undermined the procedural priming procedure which was designed to induce unidirectional argumentation. The reasoned and reasonable approach adopted by the participants was simply not conducive to the mindset priming goals of the study. It is also possible that the potentially problematic title of the priming procedure in the current study may have hampered the onset of priming effects. Entitled “*critical writing task*”, this ambiguously titled task may well have promoted the *critical* (i.e. balanced) information processing that was exhibited rather than the *critical* (i.e. negatively biased) information processing that was anticipated. Only the later mode of

information processing is conducive to counterarguing mindset activation. Future studies could address this issue by changing the name of the first “study” (i.e. priming procedure). In Studies 2, 3 and 4 the priming task was renamed to “opinion assessment study” to militate against this potential problem. An attention check was also included in all subsequent studies (Studies 2, 3 and 4) as a precautionary measure. The inclusion of an attention check would allow the researcher to reduce noise in the dataset by identify individuals who may not have paid full attention during the study.

5.2. Study 2

5.2.1. Introduction to Study

Study 2 aimed to replicate and extend the work of Xu and Wyer (2012) by testing both the strength and scope of the carryover effects for a bolstering mindset. It was hypothesised that the activation of a bolstering mindset would predispose participants to support the implications of counter-attitudinal, persuasive appeals. Specifically, it was hypothesised that a bolstering mindset would increase participants’ overall evaluations of a persuasive appeal (composite measure of article persuasiveness and article appeal), increase the perceived attractiveness of the counter-attitudinal proposition (i.e. web-tax) and decrease participants’ ability to detect deceptive/manipulative advertising tactics (perceived manipulative intent). It was also postulated that the bolstering mindset would accentuate participants’ behavioural responsiveness (willingness to pay the web-tax, willingness to volunteer

for future research, number of minutes volunteered for future studies, willingness to sign a petition supporting the web-tax). Furthermore, it was expected that a bolstering mindset would affect participants' cognitive responses to the advert. Specifically, it was hypothesised that a bolstering mindset would induce participants to generate more (less) positive (negative) thoughts while also inhibiting persuasion knowledge activation (i.e. the number of PK thoughts generated). Finally, it was hypothesised that the carryover effects of the bolstering mindset would be particularly strong among participants exhibiting high approach motivation (high BAS).

Participants in this study were exposed to one of two newspaper articles. Both counter-attitudinal articles advocated the introduction of a "web-tax" in Ireland. The salience of manipulative intent was varied between the newspaper articles. Article 1 was a highly manipulative article which featured arguments made by a biased media investor. In contrast, Article 2 was a non-manipulative article which featured arguments made by a neutral academic researcher. Xu and Wyer (2012) did not find any interaction effect between mindset and different persuasive appeals. However, in order to retain the experimental design employed by the researchers and to leave this question open for exploration, two adverts with varying manipulative intent were included in the study.

As in Study 1, participants were procedurally primed using a writing task. Subsequently, participants were exposed to one of two newspaper articles advocating a web-tax. Participants were asked to make evaluative judgements on the web-tax article and the web-tax proposition. In addition to the dependent variables used in Study 1, three additional dependent variables were included in the current study; petition-signing, attitude certainty, and number of PK thoughts generated by

participants. It is expected that participant in the bolstering condition will be more likely to sign a petition (in support of the web-tax), exhibit greater attitude certainty (i.e. meta-cognition) and generate fewer PK thoughts than participants in the control and counterarguing conditions. Taken together the hypotheses for Study 2 read as follows:

Hypotheses 1a-b: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate more favourable overall evaluations (i.e. as a composite measure of persuasiveness and appeal) of the web-tax article (H1a) and more favourable evaluations of the web-tax proposal (i.e. web-tax attractiveness) (H1b).

Hypotheses 2a-d: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will be more willing to pay the web-tax (H2a), be more willing to volunteer for future research (H2b), be more willing to volunteer their time (i.e. minutes) for future studies (H2c) and be more willing to sign a petition supporting the web-tax (H2d).

Hypotheses 3a-b: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate more positive thoughts (H3a) and fewer negative thoughts (H3b) in response to the web-tax article.

Hypotheses 3c-d: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate fewer PK thoughts (H3c) and exhibit greater attitude certainty (H3d) in response to the web-tax article.

Hypotheses 4a-b: The carryover effects of a bolstering mindset on participants' overall evaluation of the web-tax article (composite measure of persuasiveness and appeal) (H4a) and participants' evaluations of the web-tax proposal (i.e. web-tax attractiveness) (H4b), will be particularly pronounced among participants exhibiting strong approach motivation (high BAS scores).

Hypotheses 4c-f: The carryover effects of a bolstering mindset on behavioural variables; willingness to pay the web-tax (H4c), volunteering for future studies (H4d); number of minutes volunteered for future studies (H4e) and willingness to sign a petition supporting the web-tax proposal (H4f) will be particularly pronounced among participants exhibiting strong approach motivation (high BAS scores).

Hypothesis 5a: Participants in the bolstering condition will rate the web-tax article as less deceptive/manipulative than participants in the control condition and participants in the counterarguing condition.

Hypothesis 5b: The carryover effects of bolstering mindset will be particularly pronounced among participants exhibiting low Persuasion Knowledge.

5.2.2. Sample and Study Design

The study employed a 3 (mindset priming: bolstering vs. counterarguing vs. control) x 2 (MI of article: high vs. low) between-subjects design. The study took place in a large lecture hall in Dublin City University. The study was conducted prior to the commencement of a lecture. A three-minute PowerPoint presentation briefed participants on the aims of the two ostensibly unrelated studies. Three hundred and fifty-six students participated in the study. However, 30 cases had to be excluded from the dataset; these included 13 extreme outliers, 7 incomplete cases and 9 participants who omitted information needed to identify which priming condition they belonged to. Finally, one individual was excluded because s/he had seen the materials during a pretesting session. Following a manipulation check to identify primed participants the final sample consisted of 233 participants (92 males, 111 females, and 30 participants with an unspecified gender) aged between 17 - 29 years. The mean age of participants was 18.70 years ($SD = 1.53$).

Considering the problems encountered in Study 1 it was deemed prudent to use a manipulation check to identify participants who had successfully completed the priming procedure. Two alternative approaches were tested to assess the impact of imposing inclusion/exclusion criteria upon participants: 1) an instructional manipulation check and 2) a manipulation check of priming strength. Both approaches are outlined below.

Instructional manipulation check (IMC). An IMC developed by Oppenheimer, Meyvis, and Davidenko (2009) was included in the questionnaire in order to identify participants who were not paying full attention during the study. The IMC increases the reliability of data by reducing the noise within it (Alter, Oppenheimer, & Zemla, 2010). Thus, the IMC increases both the validity and statistical power of the dataset (Oppenheimer et al., 2009). Consistent with previous research (e.g. Alter et al., 2010), it was envisaged that only participants who satisfied the IMC would be included in the analysis.

The IMC consists of a long paragraph of text⁸. The title “*Sports participation*” appeared over the paragraph of text. Under the paragraph of text a number of sporting activities (e.g. running, basketball, other) were listed as potential response options (e.g. *running, basketball, other*). Only participants who read the full paragraph of text would have complied with the request to refrain from indicating the sport they played and instead simply circle the paragraph heading. The IMC appeared at the end of the questionnaire and was therefore a strict test of attention levels. Of the 356 participants sampled, the IMC identified 164 participants (50%) who failed the manipulation check. Another 46 (14%) failed to answer the question at all. Only 120 participants (36%) successfully completed the IMC. Given the high dropout rate and the fact that attention levels are not necessarily indicative

⁸ Most modern theories recognise the fact that decisions do not take place in a vacuum. Individuals preferences and knowledge, along with situation variables can greatly impact the decision making process. In order to facilitate my research on decision making I am interested in knowing certain factors about you, the decision maker. Specially, I am interested in whether you actually take the time to read the directions; if not, then some of the results of this survey may be invalid. So, in order to demonstrate that you have read the instructions, please ignore the question on sports participation below. Instead, simply circle the heading “Sports participation” at the top of this paragraph.

of a successful priming procedure, a more appropriate manipulation check was considered.

Priming strength manipulation check. Priming strength is determined by the recency, frequency and amount of time processing the priming task (Wyer, 2008). Consequently, a theoretically valid manipulation check for procedural priming should identify individuals who have sufficiently elaborated upon the priming proposals in the expected direction. A participant who provided two-sided arguments when evaluating a proposition or a participant who did not respond uniformly (e.g. used a counterarguing strategy to respond to one proposition and a bolstering strategy to respond to another proposition) are unlikely to have been primed with a mindset due to “interference” (Hamilton et al. 2011). Using this rationale, it was decided to only include participants who sufficiently elaborated (wrote at least five sentences) and argued in the expected direction for each of the three priming propositions. Past priming research has used this approach as a inclusion criterion (e.g. Dholakia et al. 2006). This approach resulted in the removal of 93 participants. The final sample consisted of 233 participants which is almost double the number of participants (120) that the IMC would have permitted. In order to maintain a consistent approach between studies this method was employed in all subsequent studies.

Procedure. Participants were given a three-minute PowerPoint presentation in which the aims of two ostensibly unrelated studies were explained. Participants were then randomly assigned to one of three conditions i.e. bolstering, counterarguing or control conditions. The same procedural priming procedure used in Study 1 was used in this study. However, in order to promote biased elaboration the name of the writing task was entitled “*opinion assessment questionnaire*” in the current study. Participants

in the bolstering (counterarguing) condition received a booklet which contained three popular (unpopular) propositions. As in Study 1, participants were asked to write a short essay providing their thoughts on three propositions. For example, participants in the bolstering condition wrote a short essay supporting the proposition that “*Reading enriches the mind*”. Participants in the control condition received a booklet which contained the three neutral topics (i.e. trees, Italy, apples). Participants were told that the purpose of the study was to assess their ability to write and express their opinions clearly. Consistent with the priming procedure used by Xu and Wyer (2012) participants were again given 15 minutes to complete the task. Participants were informed that once they had completed this first “study” they may then begin the second, seemingly unrelated study entitled “*perceptions of media*”. Participants subsequently read one of two newspaper articles before completing the accompanying questionnaire. Once participants had completed both “studies” they were debriefed and thanked for their time. Participants were encouraged to contact the researcher if they had any questions regarding the study or if they required further information. No participants requested any further information or made contact with the researcher after the study was completed.

Independent Variables

Article type. Participants were exposed to one of two editorial newspaper articles in which the author proposes the implementation of a web-tax (see Appendix K). The source credibility/vested interest of the author (biased media investor vs. impartial academic researcher) was varied between articles. The level of ambiguity of the evidential claims by the authors (vague vs. concrete) was also varied between the

articles. Specifically, four creative devices were used to vary MI between the articles: First, the source credibility of the presented information was varied between conditions. For example, in the “high MI article” MI was made highly salient when the author references “a recent in-house report produced by my shareholders and I”. In contrast, within the “low MI article”, MI was less salient by referencing “a recent independent report by leading academics Hays et al. (2013)”. Second, the level of ambiguity of evidential claims made by the authors was varied between conditions. Specifically, in the high MI article the author used the ambiguous phrase “according to our research virtually all of general public would support the introduction of the web-tax in principle”. In contrast, the author of the low MI article provides more concrete evidence; “30% of the general public would support the introduction of a web-tax in principle”. Third, MI was manipulated between conditions using (un)ambiguous claims regarding Ireland’s progress in tackling cybercrime. These claims were used as a justification for the introduction of the web-tax. Specifically, in the high MI article the author ambiguously claimed that “compared to other countries, Ireland is lagging behind in tackling cybercrime”. In contrast, in the low MI article the author unambiguously specifies which countries Ireland was being compared to; “compared to other EU countries such as Germany, France and Spain Ireland is lagging behind in tackling cybercrime”. Finally, the vested interest and motives of the author were varied between conditions. Specifically, in the high MI article, the author revealed his persuasive intentions by stating that he is submitting the report “in order to lobby government”. In contrast, the author of the low MI article states that he has submitted a report to the government “in order for them to consider the web-tax proposal”.

Priming. Consistent with Study 1, this study employed a procedural priming procedure. A minor change was made by changing one of the priming propositions in the priming task. Specifically, the proposition that “tuition fees should be increased (decreased)” was replaced with the monetary neutral proposition. Instead, the proposition “*Recycling is a good (bad) idea*” was used to induce bolstering (counterarguing). It was feared that the former proposition might activate money concepts that would confound the results given the monetary nature of the target (web-tax article). Furthermore, the name of the first task (i.e. the priming procedure) was renamed from ‘*critical writing task*’ (Study 1) to “*opinion assessment questionnaire*” in this study. This change was implemented to rule out the possibility that the task name rather than the priming propositions were influencing participants’ thought processes.

Dependent Variables

Perceptual Measures

Article evaluation. Participants rated article persuasiveness and article appeal on a 7-point Likert scale ranging from 1, *not at all*, to 7, *very*. An article evaluation composite measure was computed by combining article persuasiveness and article appeal scores.

Proposition attractiveness. Participants were also asked to evaluate the argument strength of the newspaper article using a well-established composite measure (e.g. Tormala et al. 2002; Tormala et al. 2006; Wheeler et al. 2007). Specifically, six 9-point semantic differential attitude scales were used to assess the argument strength of the article; (1) unfavourable - (a) favourable, (2) unpleasant – (b)

pleasant, (3) foolish – (c) wise, (4) bad – (d) good, (5) harmful – (e) beneficial, and (6) negative – (f) positive. These six scores were computed to create a composite measure for the perceived attractiveness of the proposition being proposed. This measure for proposition attractiveness was found to demonstrate satisfactory internal reliability with a Cronbach alpha coefficient of .91.

Perceived Manipulative Intent. The level of PK activation was assessed using two measures adopted from Kirmani and Zhu (2007). The first measure used three 7 point Likert-type scales to assess perceptions of the article’s believability, truthfulness and deceptiveness. The three scales were anchored from 1, *unbelievable* to 7, *believable*, from 1, *not deceptive* to 7, *deceptive*, and from 1, *not truthful* to 7, *truthful*. The question relating to deceptiveness was reverse coded and the scores from all three measures were computed to form a single measure for PK activation. A second measure used a thought listing task. PK activation was assessed by counting the number of deception, disbelief or dishonesty related thoughts that participants generated when evaluating the article (see cognitive measures).

Behavioural Variables

Willingness to volunteer. The same two questions that were used in Study 1 were again used to assess participants’ willingness to volunteer (Yes/No) for future studies and their willingness to volunteer their time (i.e. minutes) to partake in future studies.

Willingness to pay. Participants were asked to indicate the amount of web-tax they would be willing to pay: “*If you were legally compelled to pay the tax how much*

would you be willing to pay for a one-year license? Please indicate the amount in Euros”.

Willingness to sign a petition. Participants were asked to indicate their willingness to support the web-tax proposal. Specifically, participants were asked, “How likely would you be to sign the petition supporting the web-tax?” Participants indicated their likelihood to support the petition on a 7-point Likert scale ranging from 1, *not at all likely*, to 7, *very likely*.

Cognitive Measures

A thought listing task was used to assess participants’ reactions to the articles. Positive thoughts, Negative thoughts, and PK thoughts (thoughts relating to disbelief, deception or dishonesty) were coded. Participants’ thoughts were coded by two independent coders who were blind to the experimental hypothesis.

Attitude certainty is a measure which is predictive of behavioural intentions (Rucker & Petty, 2004). Participants were also asked to indicate how certain they felt about their evaluations of the web-tax proposition; “How certain are you of your attitudes regarding the proposed tax?” Attitude certainty was measured using a nine point Likert-type scale ranging from 1, *not at all* to 9, *very*. Participants were also asked to indicate how involved, interested and engaged they felt when evaluating the article. Participants’ involvement levels were measured using a seven point Likert-type scale ranging from, 1 *not at all*, to 7 *very*. These three measures were computed to form a composite measure for participant involvement as used by Xu and Wyer (2012).

Measuring Instruments

Motivational orientation and mood. As in Study 1, participants' motivational orientation was measured using the BAS/BIS scale. A measure to assess participants' mood (PANAS) was also included in the questionnaire so that mood effects could be controlled for in the subsequent data analysis (for a detailed description of the measures please see Study 1). The BIS/BAS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .76. The PANAS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .72.

5.2.3. Results

A series of full factorial, Analyses of Covariance (ANCOVA) were conducted to test for the effects of mindset on the perceptual, behavioural and cognitive dependent variables. A correlation matrix for the focal variables is provided in Table 7.7. The means and standard deviations for the perceptual, behavioural and cognitive variables appear in Table 7.8, Table 7.9, and Table 7.10, respectively (see Appendix C).

Perceptual Variables

Article evaluation.⁹ There were no main effect of manipulative intent $F(1, 158) = .00, p = .952$ or priming, $F(2, 158) = 1.79, p = .170$, on participants' overall

⁹ ***Article persuasiveness.*** There was no main effect of manipulative intent on ratings of article persuasiveness, $F(1, 159) = .03, p = .863$. However, there was a marginally significant main effect of priming on ratings of article persuasiveness, $F(2, 159) = 2.67, p = .072$, partial eta squared = .032. Furthermore, the patterns of means were in the expected direction. One-sided contrasts revealed that participants in the bolstering condition ($M = 2.89, SD = 1.62$) rated the articles as slightly more persuasive than participants in the control condition ($M = 2.69, SD = 1.52; p = .203$) and significantly

evaluation of the article. Nevertheless, the pattern of means were in the expected direction and consistent with (H1a). Participants in the bolstering condition ($M = 2.67$, $SD = 1.35$) gave slightly more favourable article evaluations than participants in the control condition ($M = 2.51$, $SD = 1.34$), $p = .230$, and much more favourable article evaluations than participants in the counterarguing condition ($M = 2.24$, $SD = 1.23$), $p = .061$. However, since only the later contrast was marginally significant, H1a was not supported.

Proposition attractiveness. There were no main effect of manipulative intent, $F(1, 159) = .01$, $p = .921$ or priming $F(2, 159) = 1.06$, $p = .350$ on participants' ratings of web-tax attractiveness. Despite not reaching statistical significance, the pattern of means were in the expected direction and consistent with (H1b). Participants in the bolstering condition ($M = 3.42$, $SD = 1.77$) rated the web-tax as slightly more attractive than participants in the control condition ($M = 2.94$, $SD = 1.68$) and participants in the counterarguing condition ($M = 3.07$, $SD = 1.79$). However, the one-sided contrasts did not reach statistical significance, all $ps \geq .15$. Thus, H1b was not supported.

Perceived manipulative intent. There was no main effect of manipulative intent, $F(1, 158) = .326$, $p = .569$ or priming $F(2, 158) = 1.48$, $p = .231$ on participants' ability to detect manipulative intent. However, the pattern of means were

more than participants in the counterarguing condition ($M = 2.31$, $SD = 1.22$), $p = .022$. The later one-sided contrast reached statistical significance.

Article appeal. There were no main effects of manipulative intent, $F(1, 158) = .07$, $p = .788$ or priming, $F(2, 158) = .60$, $p = .549$, on ratings of article appeal. Despite not reaching statistical significance, the pattern of means were in the expected direction. Participants in the bolstering condition ($M = 2.46$, $SD = 1.56$) rated the articles as slightly more appealing than participants in the control condition ($M = 2.32$, $SD = 1.50$) and participants in the counterarguing condition ($M = 2.18$, $SD = 1.45$). However, the one-sided contrasts did not reach statistical significance, all $ps \geq .30$.

in the expected direction and consistent with (H5a). Participants in the bolstering condition ($M = 4.30$, $SD = 1.24$) rated the article as slightly less manipulative than participants in the control condition ($M = 4.54$, $SD = 1.21$), $p = .208$, and much less manipulative than participants in the counterarguing condition ($M = 4.56$, $SD = 1.07$), $p = .095$. However, since only the later contrast was marginally significant, H5a was not supported.

Behavioural Variables

Willingness to pay. There was no main effect of manipulative intent on participants' willingness to pay web-tax, $F(1, 94) = .98$, $p = .325$. Participants exposed to the low manipulative intent article ($M = 25.00$, $SD = 25.09$) and participants exposed to the high manipulative intent article ($M = 19.44$, $SD = 21.19$) were equally willing to pay the web-tax. However, there was a main effect of priming on participants' willingness to pay the web-tax, $F(2, 94) = 6.47$, $p = .002$, $\eta_p^2 = .121$. Participants in the bolstering condition ($M = 32.31$, $SD = 28.78$) were willing to pay more web-tax than participants in the control condition ($M = 21.42$, $SD = 22.98$), $p = .036$, and participants in the counterarguing condition, ($M = 14.26$, $SD = 13.26$) $p = .001$. Thus, H2a was supported.

Volunteerism. Analysis revealed that participants in the bolstering condition (65%) and counterarguing condition (61%) were generally more willing to volunteer for future research than participants in the control condition (49%). However, a Pearson Chi-square test for independence indicated no significant association between priming condition and volunteerism, $X^2(2, n = 197) = .14$, $p = .125$, *Cramer's V* = .14. Thus, H2b was not supported. The results of the logistical regression predicting

participants' willingness to volunteer for future studies are reported in Table 7.11 (see Appendix C).

Number of minutes volunteered. There were no main effect of manipulative intent, $F(1, 143) = .35, p = .552$, or priming, $F(2, 143) = .49, p = .610$ on the number of minutes participants volunteered for future studies. Despite not reaching statistical significance, the patterns of means were in the expected direction and consistent with (H2c). Participants in the bolstering condition ($M = 14.39, SD = 16.29$) volunteered a slightly greater number of minutes for future studies than participants in the control condition ($M = 12.87, SD = 18.01$) and participants in the counterarguing condition ($M = 11.55, SD = 14.84$). However, the one-sided contrasts did not reach statistical significance, all $ps \geq .36$. Thus, H2c was not supported.

Petition. There were no main effect of manipulative intent, $F(1, 159) = .35, p = .557$ or priming $F(2, 159) = 0.47, p = .625$ on participants' willingness to sign a petition advocating the web-tax. Inconsistent with (H2d), planned contrasts revealed that participants in the bolstering condition ($M = 1.54, SD = 1.00$), control condition ($M = 1.70, SD = 1.31$) and counterarguing condition ($M = 1.55, SD = 1.01$) were equally likely to sign the petition, all $ps \geq .35$. Thus, H2d was not supported.

Cognitive Variables

Number of positive thoughts. There was a main effect of manipulative intent on the number of positive thoughts generated by participants, $F(1,32) = 4.61, p = .039, \eta_p^2 = .126$. Participants exposed to the high manipulative intent article ($M = 1.25, SD = 0.44$) generated more positive thoughts than participants exposed to the low manipulative intent article ($M = 1.10, SD = 0.30$). There was no main effect of

priming on the number of positive thoughts generated by participants, $F(2, 32) = 1.44$, $p = .252$. Participants in the bolstering condition ($M = 1.13$, $SD = 0.34$) generated a similar number of positive thoughts to participants in the counterarguing condition ($M = 1.19$, $SD = 0.40$), $p = .125$. However, more consistent with (H3a), participants in the bolstering condition generated more positive thoughts than participants in the control condition ($M = 1.19$, $SD = 0.40$), $p = .099$. However, since only the later contrast was (marginally) significant, H3a was not supported.

Number of negative thoughts. There was a marginally significant main effect of manipulative intent on the number of negative thoughts generated by participants, $F(1, 106) = 3.35$, $p = .070$, $\eta_p^2 = .031$. Participants exposed to the high manipulative intent article ($M = 1.16$, $SD = 0.44$) generated more negative thoughts than participants exposed to the low manipulative intent article ($M = 1.07$, $SD = 0.26$). More importantly, there was a marginally significant main effect of priming on the number of negative thoughts generated by participants, $F(2, 106) = 2.66$, $p = .074$, $\eta_p^2 = .048$. Participants in the bolstering condition ($M = 1.06$, $SD = 0.24$) generated slightly fewer negative thoughts than participants in the control condition ($M = 1.12$, $SD = 0.37$), $p = .478$, and significantly fewer negative thoughts than participants in the counterarguing condition ($M = 1.15$, $SD = 0.43$), $p = .030$. These results suggest that bolstering (counterarguing) mindsets tend to decrease (increase) the production of negative thoughts. (H3b). However, since only the later contrast was statistically significant, H3b was not supported. Unlike Xu and Wyer, the current

study found no difference in the overall valence of thoughts generated between conditions.¹⁰

PK thoughts. There were no main effect of manipulative intent, $F(1, 59) = .41, p = .523$ or priming $F(2, 59) = .21, p = .811$ on the number of PK thoughts generated by participants. Participants in the bolstering condition ($M = 1.67, SD = 0.80$) generated the same number of PK thoughts as participants in the control condition ($M = 1.59, SD = 0.74$) and participants in the counterarguing condition ($M = 1.61, SD = 0.72$). One-sided contrasts did not reach statistical significance, all $ps > .55$. Thus, H3c was not supported.

Attitude certainty. There was no main effect of manipulative intent, $F(1, 158) = .51, p = .475$ or priming $F(2, 158) = .88, p = .416$ on participants' attitude certainty regarding their evaluative judgements. Contrary to (H3d), participants in the bolstering condition ($M = 5.93, SD = 2.43$) were slightly less certain of their attitude towards the article than participants in the control condition ($M = 6.26, SD = 2.55$), $p = .430$, and participants in the counterarguing condition ($M = 6.41, SD = 2.49$), $p = .186$).¹¹ Thus, H3d was not supported.

¹⁰**Thought Index.** There was a no main effect of manipulative intent on the overall valence of thoughts generated, $F(1, 159) = .01, p = .914$. Similarly, there was no main effect of priming on overall valence of thoughts generated by participants, $F(2, 159) = .27, p = .761$. The overall valence of thoughts generated among participants in the bolstering condition ($M = -0.37, SD = 0.90$.) was similar to that of participants in the control condition ($M = -0.40, SD = 0.99$) and participants in the counterarguing condition ($M = -0.53, SD = 0.94$), all $ps \geq .46$.

¹¹ In line with the findings of Xu and Wyer (2012) no difference in involvement levels were found between priming conditions $F(2, 158) = 1.17, p = .312$.

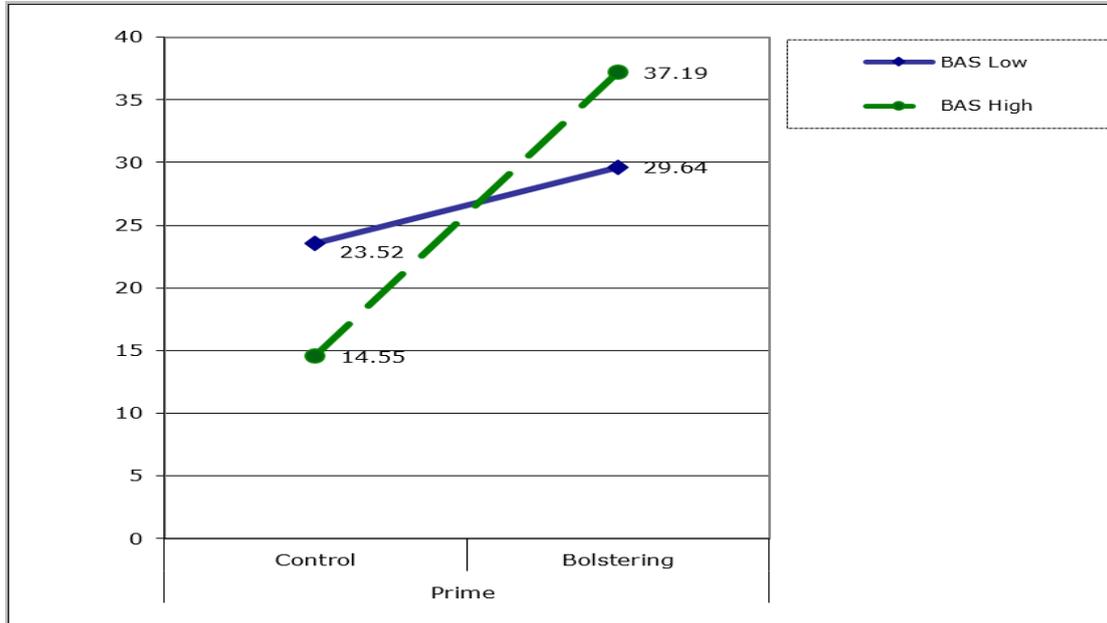
Moderation and Simple Slopes Analysis

A series of hierarchical regression analyses were employed to test the impact of the focal variables (priming, BAS, and the priming x BAS interaction) on dependent variables. In the first step, the control variable (mood) was entered. In the second step the predictors (priming and BAS) were entered. In the third step, the interaction term (priming x BAS) was entered. In order to avoid the problem of multicollinearity when testing interaction effects, the predictors were centered around the grand mean (Hox, 2002). Reported below are hierarchical regression analyses that provide evidence of moderation. The results of the moderated regression analysis assessing the influence of approach motivation on priming effects are reported in Table 7.12 (see Appendix 3).

Willingness to pay. The total variance explained by the model for willingness to pay was 11%, $F(6, 119) = 2.33, p = .037$. The interaction term BAS x priming was significant and explained an additional 3% of the model after controlling for the effects of BAS, Positive Mood, Negative Mood and priming, $R^2 \text{ change} = .03, F \text{ change} (1, 113) = 3.75, p = .055$. The final step of the regression analysis which included the BAS x priming interaction terms showed that BAS x priming was associated with participants' willingness to pay, $B = .18.53, p = .050$. The interaction is plotted in Figure 3. Simple slope analysis (Aiken & West, 1991) revealed a positive effect of priming (0 = control, 1 = bolstering) on willingness to pay among participants exhibiting high BAS (one standard deviation above the mean), $\beta = 22.64, p = .001, t(120) = 3.30$ but not for participants exhibiting low BAS (one standard deviation below the mean), $\beta = 6.12, p = .328, t(120) = 0.98$. Thus, H4c was supported. The interaction is plotted in Figure 3.

Figure 3

The Effect of Priming on Willingness to Pay Web-tax for High (+1SD) versus Low (-1SD) Low Levels of BAS



5.2.4. Discussion

The current study attempted to (a) replicate the carryover effects of a bolstering mindset and (b) to test the moderating effect of BAS on these carryover effects. Specifically, the present study aimed to investigate the impact of a bolstering mindset on perceptual variables: article evaluations (composite measure for persuasiveness and appeal) and proposition attractiveness (i.e. web-tax attractiveness). The study also aimed to investigate the impact of a bolstering mindset on behavioural variables (willingness to pay a web-tax (€), willingness to volunteer for future studies, number of minutes volunteered for future studies, willingness to sign a petition supporting the web-tax). The impact of a bolstering mindset on cognitive variables (positive thoughts, negative thoughts, PK thoughts) was also assessed. Finally, the

study investigated if motivational orientation moderated the effects of the bolstering mindset.

The first observation that may be made relates to the general strength of the mindset priming effects observed. Mindset priming effects are considered by some (e.g. Bargh & Chartrand, 2000) to be among the strongest and most robust of priming effects. However, the results reported here are weak and are dwarfed by those reported by Xu and Wyer (2012). While Xu and Wyer (2012) generally reported statistically significant results between the control condition and the experimental condition of interest (i.e. the bolstering condition in this study) such eye-catching results have not been forth-coming in the current study. Indeed, in many instances, it was only when the experimental conditions were contrasted against each other that the subtle mindset priming effects were observed. However, in the present set of studies the control condition was retained in order to match the study design employed by Xu and Wyer (2012) and provide a comprehensive framework for testing these mindset priming effects. The current study provides a much needed contribution to the scarce literature on bolstering and counterarguing mindsets by attempting the first known replication of a bolstering mindset.

The results of Study 2 indicate that participants in the bolstering condition found the web-tax article to be significantly more persuasive than participants in the counterarguing condition. No significant differences in ratings of article appeal, proposition attractiveness or participants' attitude certainty were detected between conditions. However, participants in the bolstering condition did provide more favourable overall evaluations of the newspaper articles than participants in the counterarguing condition. This pattern of results suggests a rather weak mindset

priming effect for perceptual variables. However, the bolstering mindset was found to exert a stronger effect on the amount of web-tax that participants were willing to pay. Xu and Wyer (2012) did not specifically test whether a bolstering mindset exerted an inflatatory effect on an individual's willingness to pay for an aversive product. The effect of a bolstering mindset on behavioural intentions is striking. In the present study, the strength of this effect is incongruent with the subtle and comparatively weaker priming effects on perceptual variables.

Unlike Xu and Wyer (2012), the overall valence of thoughts generated by participants (i.e. thought index) was not found to mediate the priming effects of the bolstering mindset. Nevertheless, consistent with the findings of the original study, participants in the bolstering condition generated more positive thoughts than participants in the control condition. Perhaps more interestingly, participants in the bolstering condition produced significantly fewer negative thoughts than those in the counterarguing condition. This result was not hypothesised but does appear to be theoretically congruent with the thought generation mechanism postulated by Xu and Wyer (2010). This finding suggests the bolstering mindset can inhibit the generation of negative thoughts in addition to simply promoting the generation of positive thoughts. This novel finding suggests that the bolstering mindset is more complex than originally conceptualised. It also makes a theoretical contribution to the broader literature on mindset priming by demonstrating that mindsets may suppress thought activation. Other mindset priming studies have also demonstrated that mindsets can inhibit thought production. For example, an implemental mindset has been found to promote goal-focused thoughts while inhibiting the production of negative thoughts. Indeed an implemental mindset makes individuals five times more likely to consider

the merits of a situation rather than the pitfalls (Taylor & Gollwitzer, 1995). This mindset also induces an “illusion of control” (Fujita et al., 2007).

There was no difference in the attitude certainty exhibited between participants in the different conditions. Nevertheless, the pattern of the means is interesting because it is contrary to expectation. Specifically, the means show that participants in the bolstering condition were slightly less certain of their attitudes than participants in the control condition. Participants in the counterarguing condition exhibited the most attitude certainty. The means suggest that perhaps another equally plausible hypothesis is likely. Specifically, it suggests that attitude certainty solidifies when individuals counterargue which is in keeping with the findings of Tormala & Petty (2004) who found that increased message elaboration increases attitude certainty.

A methodological explanation may be offered to account for the pronounced effects of a bolstering mindset on participants’ willingness to pay. The relatively stronger priming effect observed on participants’ willingness to pay may well be an artefact of the question used to measure participants’ responses. In short, the stronger effects observed may be due to the format of the question asked. Typically, participants’ perceptual responses were measured using a semantic differentiation scales. However, participants’ willingness to pay in the current study was assessed using an open question format; *“If you were legally compelled to pay the tax how much would you be willing to pay for a one-year license? Please indicate the amount. €_____”*. Past research has found that allowing greater interpretative scope during the assessment of the target facilitates priming effects (Higgins, 1996). Open questions do not constrain an individual’s interpretative freedom and thus facilitates

the manifestation of stronger priming effects. Furthermore, asking participants to make an evaluative judgement on a notional contribution is unlikely to weigh heavily upon participants' decision-making faculties. In contrast, asking participants to engage in behaviours that directly contravenes their strongly held views (i.e. signing a petition supporting web-tax) is likely to be more carefully considered and therefore less malleable. The absence of priming effects on participants' willingness to sign the petition seems to support this argument. However, the pattern of results for petition signing is nevertheless noteworthy. It was found that participants in both the bolstering and counterarguing conditions were less likely to sign a petition supporting the web-tax compared to participants in the control condition. This pattern of results, although not significant, is indicative of a contrast effect that occurs when the target stimulus is too negative. In this instance, it appears the web-tax proposition was so utterly repugnant to this cohort that the prospect of paying a web-tax could simply not be countenanced. Modern day students are highly web-dependent (Bassiouni & Hackley, 2014). It may well be the case that a bolstering mindset has a limited sphere of influence. In line with other studies (e.g. Bargh, 2006; Macrae & Johnston, 1998) strong motivation towards a certain stimulus often overrules priming effects that oppose more salient goals. For example, Macrae and Johnston (1998) demonstrated that priming "helpfulness" did not induce helping behaviours (i.e. helping a person to pick up pens they had dropped) if the primed participants were in a hurry. Similarly, participants primed with helpfulness were unlikely to offer assistance if the pens were leaky. The researchers concluded that when more salient goals are present (i.e. the goal to hurry to another appointment) or when strong disincentives conflict with the primed goal (leaky pens), then primed behaviours (relating to helpfulness) are less

likely to be enacted. The same principle may apply here. The cost of signing a petition in support of this counter-attitudinal proposition places a much higher cost on participants than merely making them cost-free, evaluative judgements regarding its merit. The results suggest that the web-tax was such an irredeemably negative proposition that behavioural change lay beyond the gravitational pull of the bolstering prime. Xu and Wyer (2012) suggested that boomerang effects for bolstering mindsets were possible. However, the authors did not produce evidence to support this claim.

Interestingly, participants in the bolstering condition were more likely to volunteer for future research than participants in the control condition. This result is in line with expectation. However, participants in the counterarguing condition were also more likely to volunteer for future research studies than those in the control condition. This result corresponds to the boomerang effect reported by Xu and Wyer (2012). The authors found that a counterarguing mindset could induce greater charitable donations when participants failed to effectively refute the merits of a strong persuasive appeal. The same logic may be used to explain this unexpected influence of the counterarguing mindset in the current study. For example, the prospect of eroding future class-time with research studies may well appeal to the sampled student participants. If this is true, then a counterarguing mindset would likely induce this observed boomerang effect because students seeking respite from long lectures may find it difficult to generate counterarguments against participation in studies that act as exciting deviations from the norm. The fact that the study took place during a large lecture may well have caused this interesting result.

Xu and Wyer (2012) postulated that the spheres of influence staked out by bolstering and counterarguing mindsets are mutually exclusively. Specifically, the

authors assert that the territorial boundaries of the bolstering (counterarguing) mindsets are limited to influencing negative (positive) target stimuli. However, the authors do not explicate a strong theoretical argument for this stipulation. It is worth also noting that contrary to Xu and Wyer (2012) conceptualization, both bolstering and counterarguing mindsets appear to be able to exert an influence on a target (web-tax article). The priming effects are weak and only tend to be observed when the experimental conditions are contrasted against each other. However, this study demonstrates that both counterarguing and bolstering mindsets can exert an influence on a shared target although admittedly the bolstering mindset is responsible for the majority of the effects found.

The hypothesised fit effect between the bolstering mindset and approach motivation (i.e. BAS) was found. Specifically, the results indicated that participants in the bolstering condition were willing to pay more web-tax than participants in the control condition. However, this effect was only observed among individuals exhibiting strong approach motivation (high BAS scores). This trend is interesting because the effect is found even when the target stimulus did not engender approach responses. Tax is not hedonic in nature and consequently individuals exhibiting strong approach motivation are unlikely to be attracted to it. However, it appears that individuals with strong approach motivation are likely to be disproportionately influenced by a bolstering mindset, irrespective of the character of the target stimulus. This is interesting since much motivational research finds that individuals exhibiting approach (avoidance) tendencies often exhibit a strong preference for hedonic (utilitarian) products and are more persuaded by gain framed (loss framed) messages (e.g. Lin & Shen, 2012). The current study suggests that a bolstering mindset induces

individuals to evaluate utilitarian products more positively even when gains are not emphasised.

In sum, Study 2 succeeded in replicating some of the priming effects associated with a bolstering mindset. The bolstering mindset boosted the perceived persuasiveness of a persuasive appeal and promoted more overall favourable evaluations. The bolstering mindset also increased the amount that individuals were willing to pay. However, these effects are less significant than those reported by Xu and Wyer (2012) and tend only to appear between the experimental conditions. Unfortunately, Xu and Wyer (2012) do not provide the effect sizes in their paper. This limits the researcher's ability to fully interpret their results.

Importantly, the present study demonstrates that approach motivation does moderate the effect of a bolstering mindset as hypothesised. Participants in the bolstering condition who exhibited high BAS were significantly more willing to pay for an aversive, utilitarian product (web-tax) than participants exhibiting low BAS. Xu and Wyer (2012) reported strong mindset priming effects that provided no evidence of boundary conditions impinging upon the mindset. The current study has thus sketched out new theoretical boundary conditions for the bolstering mindset. The current study also provides qualifications with regard to the strength and applicability of these mindsets. In doing so this study makes a valuable contribution to the existing literature on mindset priming and consumer resistance. Nevertheless, it is interesting to speculate if perhaps a change in target stimulus might change the priming effects observed. A less offensive target stimulus might provide a bolstering mindset with more interpretative scope, thus boosting its inflationary effects. If the sphere of influence of a bolstering mindset is localised it should exert a stronger influence on a

moderately objectionable stimulus (rather than a highly objectionable stimulus). Study 3 will employ the same experimental design as the current study in order to test this proposition.

5.3. Study 3

5.3.1. Introduction to Study

Study 3 aimed to test if a bolstering mindset would exert a greater influence on a moderately aversive target stimulus (rather than highly aversive target stimulus used in Study 2). In Study 2, participants were exposed to a newspaper article advocating a highly objectionable web-tax proposal. The web-tax proposal offered no tangible rewards or incentives. In the current study, participants were exposed to a similar newspaper article. However, this counter-attitudinal, persuasive appeal was designed to be moderately aversive in nature. Specifically, the newspaper article proposed the introduction of a mandatory pension scheme for all Irish citizens over the age of 18 years. Unlike the web-tax proposal, the pension proposal is not without its rewards, albeit distant ones. Nevertheless, being forced to pay a pension levy is likely to be an off-putting prospect for the students sampled. In order to assess willingness to pay the pension levy, participants were asked; *“If you were legally compelled to pay into a mandatory pension scheme what percentage of your salary would you be willing to contribute? Please indicate the percentage”*. Unlike previous studies which asked participants a specific amount, here participants were asked to estimate the % of their earnings they would willingly contribute. This is arguably a safer measure of

willingness to pay than a monetary amount that is heavily dependent on the student's future earning potential.

The current study adopts a similar experimental design to Study 2 and formalises the same hypotheses. However, a number of additional hypotheses are tested in the current study. First, the study tested the hypothesis that an individual's chronic PK would moderate the effects of a bolstering mindset. Study 2 demonstrated that a bolstering mindset blinds individuals to the manipulative intent embedded within a persuasive appeal. However, perhaps some individuals are particularly susceptible to this defensive disrobing effect of a bolstering mindset. Specifically, the current study tests the hypothesis that individuals who exhibit high (low) chronic PK are less (more) likely to detect deceptive/manipulative advertising tactics when primed with a bolstering mindset.

Second, the study tested a new hypothesis relating to a novel "episodic" priming procedure. Specifically, the study tested the hypothesis that a bolstering mindset could be activated via recollections of past bolstering episodes. Xu and Wyer (2012) demonstrated that counterarguing and bolstering mindsets may be induced incidentally. Simply watching a political speech (debate) was found to prime bolstering (counterarguing) mindsets respectively (see Study 4, Xu & Wyer, 2012). However, all of the four studies by Xu and Wyer (2012) involved the real-time activation of cognitive procedures. The current study extended their research by testing the hypothesis that episodic recall may activate a bolstering mindset. Specifically, it is hypothesised that asking participants to recall past bolstering episodes would reactivate these past cognitive procedures and thus prime a bolstering mindset.

Recent research suggests that an episodic recall task may be used to activate non-conscious resistance (Fransen & Fennis 2014). Specifically, the authors primed “persuasive intent” by asking participants to “*think of a situation in which someone tried to influence you*” (Fransen & Fennis 2014; p. 922). The results indicate that participants primed with persuasive intent were more resistant to subsequent persuasion attempts than those in the control condition. Indeed, participants in the ‘resistance primed’ condition demonstrated levels of resistance comparable to those who have been explicitly forewarned of an impending persuasion attempt. This research suggests that unconsciously activated resistance offers the same defensive properties as consciously activated resistance strategies. Interestingly, this unconsciously activated resistance does not exhaust participants’ regulatory resources (Fransen & Fennis, 2014). Participants in the ‘resistance primed’ condition employed fewer cognitive resources than participants in the forewarned condition when defending themselves against a persuasive attack. The current study tested whether the opposite scenario is possible. The implicit resistance primed by Fransen and Fennis (2014) is likely to have been mobilised as a result of cognitively accessing concepts and cognitive procedures related to resistance. Indeed, in order to cognitively access past episodic memories of resistance participants would have had to access the cognitive procedures associated with these memories. If bolstering cognitive procedures are reactivated using an episodic priming task then it seems plausible that these cognitive procedures may carryover to influence future evaluative judgements. To test this hypothesis, Study 3 includes an episodic priming procedure in the experimental design. However, the procedural priming procedure already employed in Study 1 and Study 2 was also retained. It was hoped that the inclusion of

two different priming procedures in one study may allow the researcher to assess the strength of priming effects produced by these two different priming techniques. The hypothesised carryover effects of a bolstering mindset on perceptual, behavioural and cognitive dependent variables remain largely unchanged from Study 2. The following hypotheses are postulated for Study 3:

Hypotheses 1a-b: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate more favourable overall evaluations (composite measure of persuasiveness and appeal) of the pension scheme article (H1a) and more favourable evaluations of the proposed pension scheme (H1b).

Hypotheses 2a-d: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will be more willing to pay the pension levy (H2a), be more willing to volunteer for future studies (H2b), be more willing to volunteer their time (i.e. minutes) for future studies (H2c) and be more willing to sign a petition supporting the proposed pension scheme (H2d).

Hypotheses 3a-b: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate more positive thoughts (H3a) and fewer negative thoughts (H3b) in response to the pension scheme article.

Hypotheses 3c-d: Compared to participants in control and counterarguing conditions, participants in the bolstering condition will generate fewer PK thoughts (H3c) and exhibit greater attitude certainty (H3d) in response to the pension scheme article.

Hypotheses 4a-b: The carryover effects of a bolstering mindset on participants' overall evaluation of the pension article (composite measure of persuasiveness and appeal) (H4a) and participants' evaluations of the pension scheme proposal (i.e. attractiveness of the mandatory pension) (H4b), will be particularly pronounced among participants exhibiting strong approach motivation (high BAS scores).

Hypotheses 4c-f: The carryover effects of a bolstering mindset on behavioural variables; willingness to pay the pension levy (H4c), willingness to volunteer for future studies (H4d); number of minutes volunteered for future studies (H4e) and willingness to sign a petition supporting the pension scheme proposal (H4f) will be particularly pronounced among participants exhibiting strong approach motivation (high BAS scores).

Hypothesis 5a: Participants in the bolstering condition will rate the pension scheme article as less deceptive/manipulative than participants in the control condition and participants in the counterarguing condition.

Hypothesis 5b: The carryover effects of bolstering mindset will be particularly pronounced among participants exhibiting low Persuasion Knowledge.

Hypothesis 6: An episodic recall task will induce a bolstering mindset.

5.3.2. Sample and Study Design

The study employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (manipulative intent of article: high vs. low) x 2 (priming types: procedural vs. episodic) between-subjects design. Three hundred and fifty-six students participated in the study; 182 participants were exposed to an episodic priming procedure and 174 participants to the procedural priming procedure. Participants (142 males, 189 females, 25 participants of unspecified gender) were aged between 18 – 53 years. The mean age of participants was 22.63 years ($SD = 5.23$).

Procedure. Participants were recruited in tutorials. Having secured permission from the tutor, participants were asked if they were willing to partake in two unrelated studies. The group sizes typically ranged from 10 - 30 participants in these data collection sessions. In the first study (i.e. priming procedure), participants were randomly assigned to one of three priming conditions (bolstering, counterarguing or control conditions) and one two priming procedures conditions (procedural vs. episodic). Participants in the procedural priming conditions undertook the same writing task used in Study 2. Participants in the episodic priming conditions wrote about a past occasion in which they engaged in counterarguing or bolstering behaviours. For example, participants in the bolstering condition were asked to 1)

“please describe a situation in your own life in which you strongly reaffirmed your beliefs when someone challenged your beliefs”, 2) “describe how you behaved in this situation” and 3) “describe the emotions you experienced in this situation”. Conversely, participants in the counterarguing conditions wrote about a past experience in which they engaged in counterarguing (i.e. *“Please describe a situation in your own life where you strongly argued against another person’s point of view which conflicted with your own”*).

As in the bolstering condition, participants were also asked to write about their cognitive and behavioural responses to the situation. Participants in the control condition wrote an essay about 3 neutral memories; 1) *“describe the typical breakfast you eat before you go to college”, 2) “describe your typical journey to college” and 3) “describe your typical day while at college”.* All participants were given 15 minutes to complete the task. Participants were informed that once they had completed this “study” they may begin a second, ostensibly unrelated study. In this second task, participants were exposed to one of two newspaper articles advocating a mandatory pension scheme for all Irish citizens over the age of 18 years. Manipulative Intent (moderate vs. high) was manipulated between the articles (see Appendix K). Participants were asked to complete a questionnaire which assessed their perceptual, behavioural and cognitive responses to the article. Once both studies were completed participants returned all materials to the researcher. Participants were thanked for their participation in the study and encouraged to contact the researcher if they had any questions or concerns.

Measuring Instruments

Mood and motivational orientation. In Study 1 and Study 2, the 20 item PANAS measure was used to control for mood effects. However, in order to shorten the already long questionnaire it was decided to replace the PANAS with a one item measure for mood. A semantic differentiation mood scale ranging from -5 *very sad* to + 5, *very happy* was used to control for mood effects in the current study. This measure, used by Xu and Wyer (2012) was considered a more parsimonious means of measuring participant mood. The BIS/BAS measure was again used to measure participants' chronic motivational orientation in the current study. The BIS/BAS scale was found to have a satisfactory internal reliability with a Cronbach alpha coefficient of .74. The BIS subscale and the BAS subscale both demonstrated satisfactory internal reliability with Cronbach alpha coefficients of .79 and .82 respectively.

Chronic PK. Participants' chronic PK was assessed using a 6-item measure developed by Bearden, Hardesty and Rose (2001). An example item on the scale is "*I know when an offer is too good to be true*". Participants' responses were measured using a 5-point rating scale ranging from 1, *extremely uncharacteristic (of me)* to 5, *extremely characteristic (of me)*. The PK exhibited high internal reliability with a Cronbach alpha coefficient of .82.

Regulatory orientation. The Regulatory Focus Questionnaire (RFQ) was included in the questionnaire to assess participants' regulatory orientation (Higgins et al. 2001) The (RFQ) was included for explorative purposes and was found to demonstrate satisfactory internal reliability with a Cronbach alpha coefficient of .67.

Dependent variables

The same perceptual, behavioural and cognitive dependent variables in Study 2 were again tested in the current study. Perceptual variables again included participants' overall evaluation of the article (composite measure of persuasiveness and appeal), the perceived attractiveness of the proposition (i.e. pension scheme) and the perceived manipulative intent within the article. Behavioural variables (i.e. willingness to pay into the pension scheme, willingness to volunteer for future studies, number of minutes volunteered for future studies and willingness to sign a petition supporting the pension scheme) were assessed. Similarly, cognitive variables relating to the number of thoughts generated by participants (positive thoughts, negative thoughts, PK thoughts) and participants' attitude certainty was also assessed (for a detailed description of all variables please see Study 2).

5.3.3. Results

A series of full factorial, Analyses of Covariance (ANCOVA) were run to test the effects of mindset priming on perceptual, behavioural and cognitive variables adapted from previous studies (see Studies 1 and 2). As in previous studies (see Studies 1 and 2), mood was included as a covariate in the analysis to control for possible mood effects. A series of one-sided contrasts were also conducted for each set of analysis.

The analyses revealed that the episodic priming failed to produce any mindset priming effects. In the interest of parsimony, the descriptive data and null results are reported in Tables 7.20 – 7.22 (see Appendix D). The results reported below relate only to participants in the procedural priming conditions. A correlation matrix for the

focal variables is provided in Table 7.13. The means and standard deviations for the perceptual, behavioural and cognitive variables appear in Table 7.14, Table 7.15, and Table 7.16 respectively (see Appendix D).

Manipulation check. The IMC used in Study 2 was again included in this study to test the attention levels of participants. The results of the IMC showed that only 134 (82%) of participants would have been included in the analysis if successfully completing the IMC was used as the inclusion criterion. In order to maintain consistency between studies and to retain statistical power, the same priming manipulation check used in Study 2 was again applied in this study. Specifically, only participants who sufficiently elaborated (wrote at least 5 sentences and argued in the expected direction for each of the three priming propositions) were included in the dataset (see Dholakia et al. 2006). Importantly, this approach again resulted in fewer cases being removed from the dataset. Of the 174 procedurally primed participants, 12 cases were removed from the dataset; 10 participants did not argue in the expected direction for all three propositions and 2 participants failed to write at least 5 sentences for each proposition. The final procedurally primed sample consisted of 162 participants (63 males, 88 females, 11 participants of unspecified gender) aged between 18 - 43 years. The mean age of participants was 22.36 years ($SD = 4.94$).

Perceptual Variables

Article evaluation.¹² There were no main effect of manipulative intent, $F(1, 104) = 1.08$, $p = .301$ or priming, $F(2, 104) = 1.06$, $p = .350$ on participants' overall

¹² **Article persuasiveness.** There were no main effect of manipulative intent, $F(1, 104) = .01$, $p = .919$ or priming, $F(2, 104) = .60$, $p = .551$ on participant's ratings of article persuasiveness. Nevertheless,

evaluations of the articles. Nevertheless, the pattern of means were in the expected direction and consistent with (H1a). Participants in the bolstering condition ($M = 3.78$, $SD = 1.73$) gave slightly more favourable article evaluations than participants in the control condition ($M = 3.26$, $SD = 1.39$) and participants in the counterarguing condition ($M = 3.29$, $SD = 1.73$). However, planned contrasts did not reveal any significant differences between the priming conditions, all $ps \geq .17$. Thus, H1a was not supported.

Proposition attractiveness. There was no main effect of manipulative intent on participants' ratings of pension scheme attractiveness, $F(1, 104) = .18$, $p = .674$. However, there was a main effect of priming on participants rating of pension scheme attractiveness, $F(2, 104) = 2.99$, $p = .055$, $\eta_p^2 = .054$. Participants in the bolstering condition ($M = 6.48$, $SD = 1.77$) rated the pension scheme as more attractive than participants in the control condition ($M = 5.79$, $SD = 1.78$), $p = .043$, and participants in the counterarguing condition ($M = 5.63$, $SD = 2.20$), $p = .023$. However, since only the later contrast was marginally significant, H1b was not supported.

the pattern of means were in the expected direction. Participants in the bolstering condition ($M = 3.63$, $SD = 1.75$) rated the articles as slightly more persuasive than participants in the control condition ($M = 3.28$, $SD = 1.65$) and participants in the counterarguing condition ($M = 3.32$, $SD = 1.85$). However, one-sided contrasts did not reveal any significant differences in rating of article persuasiveness between the priming conditions, all $ps \geq .32$.

Article appeal. There was a main effect of manipulative intent on ratings of article appeal, $F(1, 105) = 4.01$, $p = .048$, partial eta squared = .037. Participants exposed to the high manipulative article ($M = 3.14$, $SD = 1.79$) rated the article as less appealing than participants exposed to the less manipulative article ($M = 3.73$, $SD = 1.79$). There was no main effect of priming on ratings of article appeal, $F(2, 105) = 1.22$, $p = .299$. Nevertheless, the pattern of means were in the expected direction. Participants in the bolstering condition ($M = 3.94$, $SD = 2.00$) rated the articles as slightly more appealing than both participants in the control condition ($M = 3.24$, $SD = 1.52$) and participants in the counterarguing condition ($M = 3.27$, $SD = 1.91$). However, one-sided contrasts did not reveal any significant differences in article appeal between priming conditions, all $ps \geq .13$.

Perceived manipulative intent. There was a significant main effect of manipulative intent on participant's ability to detect deceptive/manipulative advertising tactics, $F(1, 105) = 4.18, p = .043, \eta_p^2 = .038$. Participants exposed to the highly manipulative article ($M = 4.56, SD = 1.15$) rated the article as significantly more manipulative than participants exposed to the less manipulative article ($M = 4.02, SD = 1.31$). However, there was no main effect of priming on participants' ability to detect manipulative intent, $F(2, 105) = 1.31, p = .878$. Participants in the bolstering condition ($M = 4.23, SD = 1.09$), control condition ($M = 4.31, SD = 1.22$) and counterarguing condition ($M = 4.30, SD = 1.44$) rated the article as equally manipulative. One-sided contrasts did not reveal any significant differences between the priming conditions, all $ps \geq .61$. Thus, H5a was not supported.

Behavioural Variables

Willingness to pay. The skewed data were transformed using a logarithm transformation. An ANCOVA subsequently revealed there were no main effect for manipulative intent, $F(1, 63) = .91, p = .342$ or priming, $F(2, 63) = 2.09, p = .132$ on participants' willingness to pay the pension levy. Nevertheless, the pattern of means were in the expected direction and consistent with (H2a). Participants in the bolstering condition ($M = 0.87, SD = 0.26$) were willing to pay a higher percentage of their earning to the pension levy compared to participants in the control condition ($M = 0.65, SD = 0.39$), $p = .049$, and participants in the counterarguing condition ($M = 0.66, SD = 0.39$), $p = .067$. Thus, H2a was supported.

Volunteerism. Analysis revealed that participants in the bolstering condition (77%), control condition (80%) and counterarguing condition (74%) were equally

willing to volunteer for future research. A Pearson Chi-square test for independence indicated there was no significant association between priming condition and volunteerism, $X^2(2, n = 149) = .06, p = .768, Cramer's V = .05$. Thus, H2b was not supported.

Number of minutes volunteered. The skewed data were transformed using a logarithm transformation. There were no main effects of manipulative intent, $F(1, 64) = .00, p = .947$ or priming, $F(2, 64) = .09, p = .918$ on the number of minutes participants volunteered for future studies. Participants in the bolstering condition ($M = 1.52, SD = 0.23$), control condition ($M = 1.60, SD = 0.30$) and counterarguing condition ($M = 1.48, SD = 0.28$) were likely to volunteer a similar number of minutes of their time for future studies, all $ps \geq .68$. Thus, H2c was not supported.

Petition. There was no main effect of manipulative intent on participants' willingness to sign a petition advocating the proposed pension scheme, $F(1, 105) = 1.25, p = .266$. However, there was a marginally significant main effect of priming on participants' willingness to sign the petition supporting the pension scheme, $F(2, 105) = 2.44, p = .092, \eta_p^2 = .044$. Consistent with (H2d), participants in the bolstering condition ($M = 4.09, SD = 2.33$) were more likely to sign a petition to support the introduction of the mandatory pension than participants in the control condition ($M = 3.43, SD = 1.96$), $p = .072$, and participants in the counterarguing condition ($M = 3.30, SD = 2.17$), $p = .038$. Thus, H2d was supported.

Cognitive variables

Number of positive thoughts. There was a no main effect of manipulative intent on the number of positive thoughts generated by participants, $F(1, 58) = .18, p$

= .671. However, there was a marginally significant main effect of priming on the number of positive thoughts generated by participants, $F(2, 58) = 2.48, p = .093, \eta_p^2 = .079$. Participants in the bolstering condition ($M = 1.64, SD = 0.73$) and participants in the control condition ($M = 1.53, SD = 0.84$) generated a similar number of positive thoughts, $p = .302$. Contrary to expectation, participants in the counterarguing condition ($M = 1.76, SD = 0.83$) generated significantly more positive thoughts than participants in the control, $p = .030$. Thus, H3a was not supported.

Number of negative thoughts. There were no main effects of manipulative intent, $F(1, 77) = 1.91, p = .171$ or priming, $F(2, 77) = .29, p = .742$ on the number of negative thoughts generated by participants. Participants in the bolstering ($M = 1.93, SD = 1.01$), control condition ($M = 2.05, SD = 0.84$) and counterarguing condition ($M = 1.94, SD = 1.04$) generated a similar number of negative thoughts, all $ps > .45$. Thus, H3b was not supported. Furthermore, there was no significant difference in the overall valence of thoughts generated between conditions¹³.

PK thoughts. There were no main effects of manipulative intent $F(1, 70) = .92, p = .340$ or priming $F(2, 70) = .06, p = .938$ on the number of PK thoughts generated by participants. Participants in the bolstering condition ($M = 0.20, SD = 1.27$) generated the same number of PK thoughts as participants in the control condition ($M = 2.17, SD = 0.90$) and counterarguing condition ($M = 1.97, SD = 1.08$), all $ps \geq .76$. Thus, H3c was not supported.

¹³ **Thought Index.** There were no main effects of manipulative intent, $F(1, 105) = .63, p = .428$ or priming, $F(2, 105) = 1.98, p = .144$ on the overall valence of thoughts generated by participants. The valence of thoughts generated by participants in the bolstering ($M = -0.51, SD = 2.05$) was similar to that of participants in the control condition ($M = -0.76, SD = 1.89$) and participants in the counterarguing condition ($M = -0.18, SD = 1.94$); $p = .516$, all $ps \geq .28$.

Attitude certainty. There were no main effects of manipulative intent, $F(1, 105) = .04, p = .845$ or priming, $F(2, 105) = 1.54, p = .219$ on participants' attitude certainty towards their evaluative judgements. Participants in the bolstering condition ($M = 6.49, SD = 2.11$), control condition ($M = 6.59, SD = 1.96$) and counterarguing condition ($M = 5.98, SD = 2.04$) exhibited similar levels of attitude certainty, all $ps \geq .79$. Thus, H3d was not supported.

Involvement. There were a no main effects of manipulative intent, $F(1, 105) = 1.88, p = .173$ or priming, $F(2, 105) = 2.24, p = .112$ on self-reported levels of task involvement. Interestingly though, participants in the bolstering condition ($M = 4.29, SD = 1.64$) exhibited higher levels of involvement than both participants in the control condition ($M = 3.56, SD = 1.59$), $p = .040$, and participants in the counterarguing condition ($M = 3.81, SD = 1.38$), $p = .110$. Only the former contrast reached statistical significance. It is worth noting that participants self-reported involvement levels were not used as a dependent variable in the current study. Rather these data were used to assess/control for any secondary effects of the priming (as was the case in the research by Xu and Wyer (2012)). While Xu and Wyer (2012) found no difference in self-reported involvement levels between the experimental conditions, the current result suggest that these mindsets can influence participant's levels.

Moderation and Simple Slopes Analysis

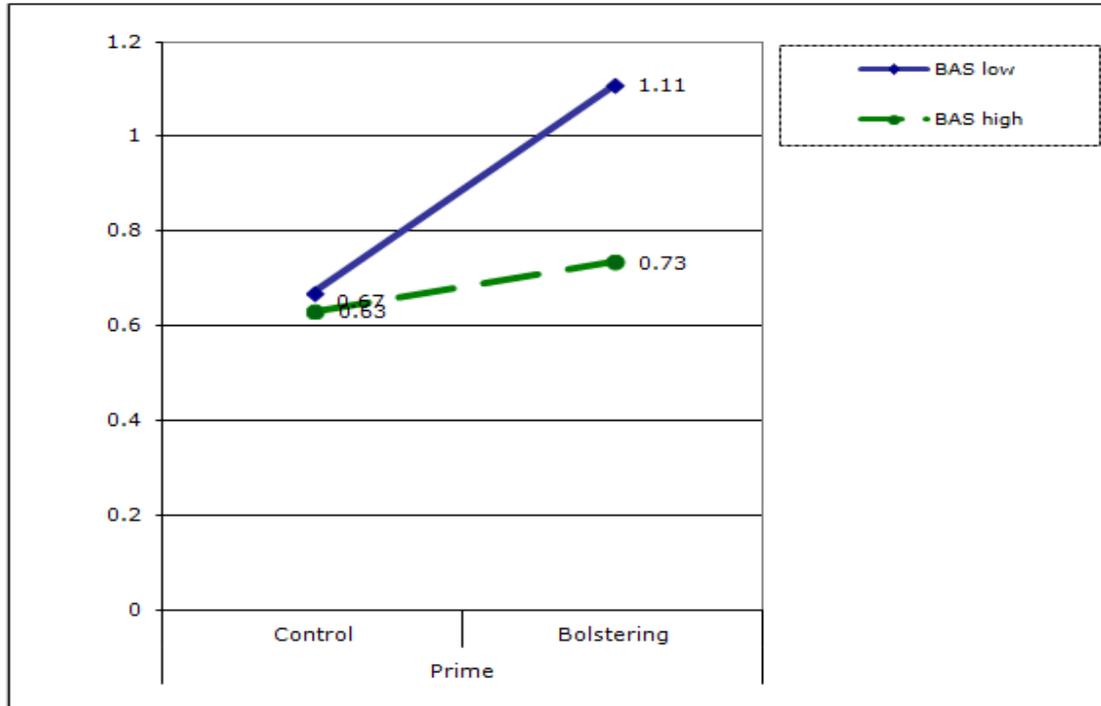
A series of hierarchical regression analyses were employed to test the impact of the focal variables (priming, BAS, and the priming x BAS interaction) on dependent variables. In the first step, the control variable (mood) was entered. In the second step the predictors (priming and BAS) were entered. In the third step, the interaction term

(priming x BAS) were entered. In order to avoid the problem of multicollinearity when testing interaction effects the predictors were centered around the grand mean (Hox, 2002).

Willingness to pay. A hierarchical multiple regression analysis was conducted to test if the amount of pension contribution participants were willing to pay was moderated by approach motivation. The amount of tax that participants in the bolstering condition were willing to pay served as the dependent variable in the regression model while BAS and BAS x priming (bolstering) served as independent variables. The total variance explained by the model was 17%, $F(5, 86) = 3.54, p = .006$. BAS x priming (bolstering) was significant and explained an additional 4.1% of the model after controlling for the effects of BAS, Mood and priming, $R^2 \text{ change} = .04, F \text{ change} (1, 86) = 4.22, p = .041$. Priming was found to significantly predict participant's willingness to pay, $\beta = -0.28, t(86) = 3.22, p < .002$. The interaction term in the model (Priming*BAS) was also found to significantly predict a variance in willingness to pay, $\beta = -0.42, t(86) = 2.05, p < .043$. The interaction is plotted in Figure 4.

Figure 4

The Effect of Priming on Willingness to Pay Pension Contributions for High (+1SD) versus Low (-1SD) Levels of BAS



The results suggest individuals exhibiting low approach motivation are especially influenced by a bolstering mindset. This result runs contrary to H4c which states that high strong approach motivation (high BAS score) will increase the effect of a bolstering mindset on participants' willingness to pay. Simple slope analysis (Aiken & West, 1991) revealed a positive effect of priming (0 = control, 1 = bolstering) on the amount participants were willing to pay among those participants exhibiting low BAS (one standard deviation below the mean), $\beta = .44$, $p = .000$, $t(86) = 3.63$ but not for individuals high BAS (one standard deviation above the mean), $\beta = .10$, $p = .398$, $t(86) = 0.85$.

5.3.4. Discussion

As in Study 2, the current study attempted to (a) replicate the carryover effects of a bolstering mindset and (b) to test the moderating effect of BAS on these carryover effects. The same hypotheses tested in Study 2 were again tested in Study 3. However, a number of additional hypotheses were tested in the current study. Specifically, Study 3 aimed to explore the possibility that the carryover effects of a bolstering mindset would be stronger when pitted against a moderately aversive proposition rather than the highly aversive proposition. Having used a high aversive proposition (i.e. web-tax) in Study 2, the use of a moderately aversive proposition (i.e. mandatory pension scheme) in the current study would allow the researcher to explore this possibility. The current study also tested if an individual's chronic PK would moderate the effects of a bolstering mindset. It was hypothesised that individuals exhibiting low chronic PK would be especially vulnerable to manipulative persuasive appeals when primed with a bolstering mindset. Finally, the study tested the possibility that a bolstering mindset could be induced via episodic recall.

Study 3 revealed a pattern of priming effects that were generally consistent with expectation. Despite not reaching statistical significance, participants in the bolstering condition provided more favourable overall evaluations of the pension article rating, and regarded the pension article as slightly more persuasive and more appealing than participants in the other conditions. Participants in the bolstering condition also perceived the pension proposition as significantly more attractive than participants in the control and counterarguing conditions. In the current study, proposition attractiveness was measured using a 6-item scale; (unfavourable-favourable, unpleasant-pleasant, foolish-wise, bad-good, harmful-beneficial, and

negative-positive). This measure arguably provides a more robust measure to assess proposition attractiveness than the one item measure employed in the previous two studies. Similarly, participants' willingness to pay was assessed by asking participants to indicate the percentage of their earnings they would be willing to contribute to the proposed pension scheme. Again, this may be considered to be a more valid measure for measuring willingness to pay given the potential difficulties that participants may encounter when trying to estimate the amount of money they will earn in the future.

In contrast to Study 2, participants' willingness to volunteer for future research did not differ between conditions in the current study. Furthermore, there was no difference in participants' willingness to volunteer or the number of minutes volunteered between conditions. Consequently, the current study does not provide any evidence that a bolstering mindset increases behavioural compliance. However, the results do suggest that the bolstering mindset can influence behavioural intentions.

In the previous study (i.e. Study 2), the bolstering mindset was found to influence some behavioural intentions (i.e. willingness to pay) but not others (i.e. petition signing). However, in the current study the bolstering mindset influenced both these behavioural intention measures. Participants in the bolstering condition were significantly more willing to pay into a pension scheme than participants in the control and counterarguing conditions. Compared to participants in the control (counterarguing) conditions, participants in the bolstering condition were marginally (significantly) more likely to sign a petition supporting the proposed pension scheme. The presence of this priming effect in the current study and the absence of this priming effect in Study 2 lend support to the suggestion that the target of the prime is an important determinant of the mindset's influence. In Study 2, the bolstering

mindset did not boost petition signing behaviours when the target was a highly unfavourable proposition (i.e. web-tax). However, in the current study, the bolstering mindset increased petition signing when the target was a moderately unfavourable pension scheme.

Contrary to expectation, but in line with the results of Study 2, participants in the bolstering condition did not exhibit increased attitude certainty or decreased sensitivity to manipulative intent. Interestingly though, participants in the bolstering mindset reported significantly higher levels of self-reported task involvement than participants in the control condition. This finding is contrary to the findings of Xu and Wyer (2012) who found that counterarguing and bolstering mindsets did not influence the level of self-reported task involvement among participants. However, it is not necessarily surprising that a bolstering mindset could increase task involvement. Indeed, it seems intuitive that a mindset which induces reaffirming thoughts would also induce greater feelings of involvement. Involvement levels did (did not) differ between participants in Study 2 (Study 3). This finding suggests that participants' involvement levels might also be dependent upon the strength of their initial emotional response to the target stimulus. This result suggests that a bolstering mindset has the potential to induce higher levels of task involvement when the target stimulus is not overwhelmingly negative in nature.

Analysis of the cognitive variables tendered some unexpected results. In line with expectation, participants in the bolstering condition generated more positive thoughts than participants in the control condition. What is surprising is that participants in the counterarguing condition also generated more positive thoughts than those in the bolstering and control conditions. This anomaly is contrary to

expectation and lead to a significant difference in the overall valence of thoughts generated between conditions. There were no differences in the number of negative thoughts or the number of PK thoughts generated between conditions.

In the current study the priming effects on perceptual variables are weak. Congruent with the findings of Study 2, the strongest priming effects are found between the experimental conditions (i.e. bolstering and counterarguing conditions). This suggests that the counterarguing mindset does exert a subtle if non-significant negative effect on evaluative judgements. While the bolstering mindset is chiefly responsible for the priming effects observed, the consistency of the pattern is noteworthy. It is the consistency of this pattern of results rather than the statistical strength of the effects that is compelling.

It was hypothesised that individuals exhibiting strong approach motivation (i.e. high BAS scores) would be most influenced by the bolstering priming procedure since bolstering thoughts should have been more congruent and cognitively accessible among these individuals. However, contrary to expectation participants in the bolstering condition who exhibited weak approach motivation (low BAS scores) were the most willing to pay pension contributions. This counter-intuitive finding is intriguing and provokes the researcher to reassess his assumptive position. One potential explanation is that the bolstering mindset exerts a relatively greater influence on individuals who are not inclined towards the generation of bolstering thoughts. This explanation employs a reversed logic to the assumptions previously formulised as hypothesis. Perhaps individuals who do not habitually think in a positive light are most influenced by the bolstering mindset. This finding is interesting as positive/reaffirming thoughts are generally associated with strong approach

motivation rather than weak approach motivation. It also conflicts with the findings of Study 2 which did support the hypothesis that strong approach motivation accentuates the effects of a bolstering mindset.

Informed by theory, this research adopted the central assumption that a bolstering (counterarguing) mindset would be moderated by approach (avoidance) motivation. However, this appears to be too simplistic a conceptualisation. Analysis revealed that participants in the counterarguing condition who exhibited weak approach motivation (i.e. low BAS scores) were less willing to pay into the pension than individuals who exhibited strong approach motivation (i.e. high BAS scores). This result was not anticipated. It was assumed that the presence of strong avoidance motivation rather than the absence of strong approach motivation would moderate the counterarguing mindset. However, the results suggest the latter scenario is possible. Importantly, this moderating effect remains theoretically congruent with the original hypothesis. The complete lack of the results for the episodic priming procedure is surprising. Scholars suggest that procedural priming procedures generally produce relatively strong priming effects because of the direct link between the prime and the target behaviour (Bargh & Chartrand, 2000). In contrast, when the link between the prime and the target is more abstract, there is less control over the downstream concepts that the prime activates. With this in mind it was assumed that the procedural priming procedure would exhibit stronger effects than the episodic priming. However, the complete absence of any priming effects for the episodic priming is difficult to explain.

One possible explanation for this pattern of results may be that bolstering episodes are difficult to recall in a concrete manner. If this is the case, then the prime

(i.e. an episodic memory of bolstering) might not have the power to exert an effect on behaviours. It is possible that these memories are less cognitively accessible than more emotively laden memories relating to counterarguing episodes. Considering that counterarguing is a most frequently employed defensive response it also seems more feasible that counterarguing thoughts may be more prevalent and thus more cognitively accessible than bolstering thoughts (Zuwerink Jacks & Cameron, 2003). It seems plausible that an episodic priming procedure may be more potent when priming a counterarguing mindset than when priming a bolstering mindset. Neither the procedural priming procedure used in Study 1 nor the episodic priming procedure in the current study replicated the effects of a counterarguing mindset. Consequently, a variety of questions remain outstanding. The counterarguing mindset has yet to be replicated and the novel episodic priming procedure has yet to be successfully employed. The next study will attempt to reconcile both these outstanding issues by testing if an episodic priming procedure can activate a counterarguing mindset.

5.4. Study 4

5.4.1. Introduction to Study and Hypothesis

Study 4 aims to test the hypothesis that a counterarguing mindset could be activated by an episodic recall task. Fransen and Fennis (2014) demonstrated that an episodic recall task can be used to activate “implicit resistance”. However, the authors did not prime a specific resistance strategy. Participants were simply asked to “recall a memory of a direct persuasion attempt; “Think of a situation in which someone tried

to influence you and describe this situation below” (Fransen & Fennis, 2014, p. 992). Consequently, there is no way to know what type of resistance strategies were activated as a result of their episodic priming task. The current research seeks to address this problem by testing whether activating memories of specific resistance strategy (i.e. counterarguing) can prime the deployment of this cognitive procedure in future, unrelated domains.

In Study 3, an episodic priming procedure failed to produce any evidence of a bolstering mindset. Study 4 aims to test the hypothesis that a counterarguing mindset may be induced via episodic recall. The failure to prime a bolstering mindset using an episodic priming task may be due to the potential difficulty in recalling clear occasions of attitude bolstering. In contrast, counterarguing episodes are arguably more emotionally charged and thus more memorable. Consequently, counterarguing memories should also be more cognitively accessible and thus more amenable to producing priming effects. Accordingly, it is hypothesised that an episodic priming procedure will prime a counterarguing mindset.

The same target materials used in Study 1 (hotel adverts) to test the counterarguing mindset were used again in this second attempt to replicate the counterarguing mindset. Similarly, the same moderating effect of avoidance motivation is again postulated for the counterarguing mindset. Indeed, apart from the priming procedure, all other aspects of Study 1’s experimental design remain unchanged. The hypotheses for the dependent variables in Study 4 are outlined in the following section.

Hypotheses 1a-b: Compared to participants in control and bolstering conditions, participants in the counterarguing condition will generate less favourable overall evaluations (composite measure of persuasiveness and appeal) of the hotel advert (H1a) and generate less favourable product evaluations of the hotel (i.e. hotel attractiveness) (H1b).

Hypotheses 2a-d: Compared to participants in control and bolstering conditions, participants in the counterarguing condition will be less willing to pay for a one-night hotel stay (H2a), be less willing to volunteer for future research (H2b) and be less willing to volunteer their time (i.e. minutes) for future studies (H2c).

Hypotheses 3a-b: Compared to participants in control and bolstering conditions, participants in the counterarguing condition will generate more positive thoughts (H3a) and fewer negative thoughts (H3b) in response to the advert.

Hypotheses 4a-b: The carryover effects of a counterarguing mindset on participants' overall evaluation of hotel advert (composite measure of persuasiveness and appeal) (H4a) and participant's evaluations of the product (i.e. hotel attractiveness) (H4b), will be particularly pronounced among participants exhibiting strong avoidance motivation (high BIS scores).

Hypotheses 4c-f: The carryover effects of a counterarguing mindset on behavioural variables; willingness to pay for a one-night hotel stay (H4c), willingness to volunteer for future studies (H4d) and number of minutes volunteered for future studies (H4e) will be particularly pronounced among participants exhibiting strong avoidance motivation (high BIS scores).

Hypothesis 6: An episodic recall task will induce a counterarguing mindset.

5.4.2. Sample and Study Design

The study employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (favourableness of hotel: high vs. moderate) between-subjects design. Two hundred and ninety-one students (125 males, 163 females, 3 unspecified) participated in the study. Participants were exposed to one of two adverts (see Appendix K).¹⁴ Ten extreme outliers were excluded from the dataset. Analysis revealed that if the IMC was used as an inclusion criterion in the current study, only 137 (49%) of the sample would be included in the analysis. In order to maintain consistency between studies and to retain statistical power the priming manipulation check used in the previous studies was again employed as a means of filtering out non-primed participants. This approach again resulted in fewer cases being removed from the dataset. Specifically, eleven cases were removed from the dataset because they did not properly elaborate on the question asked; i.e. they did not describe a memory which directly related to a bolstering or counterarguing behaviour. A further two participants

¹⁴ Half of participants (146) were exposed to an advert promoting a highly attractive Igloo hotel in Switzerland (Advert 1), whereas the other half (145) were exposed to an advert promoting a moderately attractive hotel in Scotland (Advert 2).

were removed from the dataset because they did not write at least five sentences for each of the questions in the priming task. Thus the final dataset consisted of 268 participants (88 participants in the counterarguing condition, 95 participants in the control condition and 85 participants in the bolstering condition). Participants (114 male, 152 female) ranged in age from 17 to 59 years. The mean age of participants in the current study was 20.02 years ($SD = 3.19$).

Procedure. Groups of students were recruited on the DCU campus during lunch times. Data collection took place in a nearby meeting room in the Student Union Centre. The meeting room accommodated approximately 10 people. Participants were also recruited in tutorials where tutor permission was granted. The group sizes typically ranged from 10 - 30 participants in these data collection sessions. Participants were randomly assigned to one of the three priming conditions¹⁵.

Independent Variables

Advert type. The same adverts used in Study 1 (i.e. Advert 1: “Igloo hotel” in Switzerland, Advert 2: “Star hotel” in Scotland) were again used in the current experiment.

Priming. Participants were primed using an same episodic recall task used in Study 3.

¹⁵ One hundred and twenty-nine participants (48%) were asked to evaluate Advert 1 (Igloo Hotel) while 139 participants (52%) were asked to evaluate Advert 2 (Scottish Hotel). Participants then completed the same questionnaire used in Study 1 which assessed participants’ perceptual, behavioural and cognitive responses to the advert.

Dependent Variables

Perceptual variables

Advert evaluation. A 7-point Likert scale ranging from 1, *not at all*, to 7, *very* was used to assess advert persuasiveness and advert appeal. An advert evaluation composite measure was computed by combining advert persuasiveness and advert appeal scores.

Product attractiveness. Participants' perceptions of product attractiveness (i.e. hotel attractiveness) were assessed using the 7-point Likert scale used previously (see Study 2).

Behavioural Variables

Willingness to volunteer. Participants were asked to indicate (Yes/No) if they were willing to volunteer for future research studies. Participants were asked to indicate the number of minutes they would be willing to volunteer for future studies.

Willingness to pay. Participants were asked to indicate the amount of money they would be willing to pay for a one night stay in the hotel.

Cognitive Variables

Number of Positive/Negative thoughts generated. A thought listing task was used to assess participants' thoughts relating to the advert. Positive thoughts and negative thoughts were subsequently coded by two independent coders who were blind to the experimental hypotheses.

Additional Measures

As in Study 1, approach and avoidance motivation was measured using the BIS/BAS self-report measure. The BIS/BAS demonstrated satisfactory internal reliability in the current study with a Cronbach alpha coefficient of .71. The BIS subscale and the BAS subscale both demonstrated moderate to high internal reliability with Cronbach alpha coefficients of .69 and .79 respectively. Due to the fact that the questionnaire was much shorter than the questionnaire used in Study 3 it was decided to use the 20-item PANAS instrument to control for any mood effects. The PANAS demonstrated moderate internal reliability in the current study with a Cronbach alpha coefficient of .66. Importantly though, the subscales measuring positive mood and negative mood demonstrated high internal reliability with Cronbach alpha coefficients of .72 and .79 respectively.

5.4.3. Results

A series of full factorial Analyses of Covariance (ANCOVA) were run to test the effects of mindset priming on perceptual variables (advert persuasiveness, advert appeal and hotel attractiveness) and behavioural variables (willingness to pay, willingness to volunteer for future studies, number of minutes volunteered for future studies). As in previous studies, a series of simple, one-sided contrasts were conducted for each set of analysis. A correlation matrix of the focal variables is provided in Table 7.23. The means and standard deviations for the perceptual, behavioural and cognitive dependent variables can be found in Table 7.24, Table 7.25, and Table 7.6 respectively (see Appendix E). The next section provides the test statistics for the current study.

Perceptual Variables

Advert evaluation.¹⁶ There was a main effect of advert type on advert evaluations, $F(1, 204) = 16.83, p = .000, \eta_p^2 = .076$. Participants exposed to Advert 1 ($M = 4.24, SD = 1.52$) rated the hotel advert more favourably than participants exposed to the Advert 2 ($M = 3.34, SD = 1.27$). However, there was no main effect of priming on advert evaluations, $F(2, 204) = 2.29, p = .104$. Nevertheless, the pattern of means were in the expected direction and are consistent with (H1a). Participants in the counterarguing condition ($M = 3.40, SD = 1.47$) gave slightly less favourable advert evaluations than participants in the control condition ($M = 3.92, SD = 1.36$), $p = .311$, and much lower advert evaluations than participants in the bolstering condition ($M = 3.98, SD = 1.53$), $p = .034$. However, since only the later contrast was statistically significant, H1a was not supported.

Product attractiveness. There was a main effect of advert type on participants ratings of hotel attractiveness, $F(1, 204) = 55.66, p = .000, \eta_p^2 = .214$. Participants

¹⁶ **Advert persuasiveness.** There was a main effect of advert type on participants ratings of advert persuasiveness, $F(1, 204) = 9.19, p = .003$, partial eta squared = .043. Participants exposed to Advert 1 ($M = 4.10, SD = 1.49$) rated the hotel advert as more persuasive than and participants exposed to the Advert 2 ($M = 3.41, SD = 1.36$). However, there was no main effect of priming $F(2, 204) = 2.24, p = .109$ on ratings of advert persuasiveness. Nevertheless, the pattern of means were in the expected direction. Participants in the counterarguing condition ($M = 3.38, SD = 1.47$) rated the hotel advert as slightly less persuasive than participants in the control condition ($M = 3.88, SD = 1.41$), $p = .315$, and significantly less persuasive than participants in the bolstering condition ($M = 3.97, SD = 1.46$; $p = .036$). The later contrast was marginally significant.

Advert appeal. There was a main effect of advert type on participants ratings of advert appeal, $F(1, 204) = 19.66, p = .000$, partial eta squared = .088. Participants exposed to Advert 1 ($M = 4.37, SD = 1.82$) rated the hotel advert as more appealing than participants exposed to the Advert 2 ($M = 3.28, SD = 1.37$). However, there was no main effect of priming $F(2, 204) = 1.67, p = .190$ on participants ratings of advert appeal. Nevertheless, the pattern of means were in the expected direction. Participants in the counterarguing condition ($M = 3.44, SD = 1.65$) rated the hotel advert as slightly less appealing than participants in the control condition ($M = 3.98, SD = 1.61$; $p = .388$), and much less appealing than participants in the bolstering condition ($M = 3.99, SD = 1.77$; $p = .069$). The later contrast was marginally significant.

exposed to Advert 1 ($M = 4.75$, $SD = 1.72$) rated the hotel as more attractive than participants exposed to the Advert 2 ($M = 3.02$, $SD = 1.41$). However, there was no main effect of priming on participants ratings of hotel attractiveness, $F(2, 204) = .58$, $p = .563$. Nevertheless, the pattern of means were in the expected direction and are consistent with (H1b). Participants in the counterarguing condition ($M = 3.48$, $SD = 1.78$) rated the hotel as slightly less attractive than participants in the control condition ($M = 4.06$, $SD = 1.67$) and participants in the bolstering condition ($M = 3.99$, $SD = 1.87$). However, one-sided contrasts did not reveal any significant differences between priming conditions, all $ps \geq .33$. Thus, H1b was not supported.

Behavioural Variables

Willingness to pay. There was a main effect of advert type on participants' willingness to pay for a one night hotel stay, $F(1, 144) = 79.84$, $p = .000$, $\eta_p^2 = .357$. Participants exposed to Advert 1 ($M = 95.14$, $SD = 41.20$) were willing to pay significantly more for a one-night hotel stay than participants exposed to the Advert 2 ($M = 49.09$, $SD = 20.06$). However, there was a no main effect of priming $F(2, 144) = .59$, $p = .557$. Nevertheless, the pattern of means were in the expected direction and consistent with (H2a). Participants in the counterarguing condition ($M = 62.24$, $SD = 33.24$) were slightly less willing to pay for a one-night hotel stay than participants in the control condition ($M = 78.97$, $SD = 43.27$) and participants in the bolstering condition ($M = 72.77$, $SD = 39.70$). However, simple contrasts did not reveal any significant differences between priming conditions, $ps = \geq .28$. Thus, H2a was not supported.

Volunteerism. Analysis revealed that participants in the counterarguing condition (74%), control condition (80%) and bolstering condition (72%) were equally willing to volunteer for future research. A Pearson Chi-Square test of independence indicated there was no significant association between priming condition and volunteerism, $X^2(2, n = 265) = .06, p = .661, Cramer's V = .05$. Thus, H2b was not supported. The results of the logistical regression predicting participants' willingness to volunteer for future studies are reported in Table 7.27 (see Appendix D).

Number of minutes volunteered. There was no main effect of advert type $F(1, 193) = .83, p = .362$ or priming $F(2, 193) = .88, p = .417$ on the number of minutes participants volunteered for future studies. Nevertheless, the pattern of means were in the expected direction and consistent with (H2c). Participants in the counterarguing condition ($M = 14.44, SD = 12.98$) were slightly less willing to volunteer time for future studies than participants in the control condition ($M = 17.32, SD = 15.87$) and participants in the bolstering condition ($M = 18.10, SD = 17.59$). However, one-sided contrasts did not reveal any significant differences between priming condition, all $ps \geq .19$. Thus, H2c was not supported.

Cognitive Variables

Positive thoughts. There was no main effect of advert type $F(1, 125) = .000, p = .987$ on the number of positive thoughts generated by participants. However, there was a marginally significant effect of priming on the number of positive thoughts generated by participants, $F(2, 125) = 2.36, p = .099, \eta_p^2 = .036$. Participants in the counterarguing condition ($M = 1.80, SD = 0.87$) generated a similar number of

positive thoughts to participants in the control condition ($M = 2.17$, $SD = 1.06$), $p = .141$. However, participants in the counterarguing condition generated significantly fewer positive thoughts than participants in the bolstering condition ($M = 2.26$, $SD = 1.25$), $p = .035$. Nevertheless, since only the later contrast was statistically significant, H3a was not supported.

Negative thoughts. There was no main effect of advert type $F(1, 114) = .88$, $p = .350$ or priming $F(2, 114) = .09$, $p = .910$ on the number of negative thoughts generated by participants. Participants in the counterarguing condition ($M = 1.96$, $SD = 1.30$) generated a similar number of negative thoughts when compared to participants in the control condition ($M = 1.90$, $SD = 1.39$) and participants in the bolstering condition ($M = 1.15$, $SD = 0.97$), all $ps \geq .682$. Thus, H3b was not supported. There was no difference in the overall valence of thoughts generated between conditions.¹⁷

5.4.4. Discussion

The current study attempted to replicate the carryover effects of a counterarguing mindset using an episodic priming procedure. The study also aimed to test if BIS moderated the carryover effects of a counterarguing mindset. Specifically, the present study aimed to investigate the impact of a counterarguing mindset on perceptual variables: hotel advert evaluations (composite measure for persuasiveness and appeal) and product attractiveness (i.e. hotel attractiveness). The study also aimed

¹⁷ **Thought Index.** There were no main effects of advert type, $F(1, 204) = 2.39$, $p = .124$ or priming, $F(2, 204) = .95$, $p = .388$ on the overall valence of thoughts generated by participants. The valence of thoughts generated by participants in the counterarguing condition ($M = -0.13$, $SD = 2.01$) was similar to that of participants in the control condition ($M = 0.42$, $SD = 2.14$), $p = .996$ and participants in the bolstering condition ($M = 0.13$, $SD = 2.42$), all $ps \geq .213$.

to investigate the impact of a counterarguing mindset on behavioural variables (willingness to pay for a one-night hotel stay, willingness to volunteer for future studies and the number of minutes volunteered for future studies). The impact of a counterarguing mindset on cognitive variables (positive thoughts, negative thoughts) was also assessed. Finally, the study investigated if motivational orientation moderated the effects of the counterarguing mindset.

Participants in the counterarguing condition provided less favourable overall evaluations of the hotel advert than participants in the bolstering condition. Contrary to expectation, there was no difference in the number of negative thoughts generated between conditions. Interestingly though, there was a significant influence of priming on the number of positive thoughts generated. Participants in the counterarguing condition generated significantly fewer positive thoughts than those in the bolstering condition.

In Study 3 the episodic priming procedure failed to produce any priming effects. However, in the current study priming effects were observed. The expected pattern of effects was observed among the perceptual variables. Participants in the counterarguing condition gave significantly lower advert evaluations ($p = .034$) when compared to those in the bolstering condition. Analysis did not reveal any behavioural priming effects. Interestingly participants in the counterarguing condition generated fewer positive thoughts ($p = .099$) when compared to participants in the bolstering mindset. This result mirrors the findings from Study 1. In Study 1, it was the absence of negative thoughts rather than an abundance of positive thoughts that characterised the bolstering mindset. It was hypothesised that those in the counterarguing mindset would generate more negative thoughts relative to the bolstering condition.

Additional Studies

Two additional online studies are reported in the following section. These studies were conducted on Amazon Mechanical Turk or “Mturk”. Mturk is a crowd sourcing website which allows individuals to post online tasks which can be completed by a population of anonymous workers for a small financial incentive (Ross, Zaldivar, Irani, & Tomlinson, 2010). The speed and convenience of data collection on Mturk has prompted many social scientists to run online studies to supplement their lab based research (e.g. Xu & Wyer, (2012, Study 4). Mturk studies have become increasingly prevalent in scholarly journals in recent years. This growing acceptance of Mturk studies within academic journals is a testament to the robustness of the data these studies generate. Research suggests that Amazon Mturk is a reliable and inexpensive means of collecting high quality data (Buhrmester, Kwang, & Gosling, 2011; Crump, McDonnell, & Gureckis, 2013). In the interest of parsimony, the studies are briefly outlined and priming effects reported. The results of the null effects are reported in Appendix F.

5.5. Study 5

5.5.1. Introduction to Study

Study 5 attempted to replicate the effects of a bolstering mindset using the same experimental design and target materials used by Xu and Wyer (2012, Study 2). All participants were exposed to the same (exotic snack food) advert used in the as the original study (see Appendix K).

5.5.2. Sample and Study Design

The study employed a 3 (mindset: bolstering vs. counterarguing vs. control) x Advert between-subjects design. One hundred and fifty-four workers were recruited for the study. Of the 158 participants recruited, sixteen participants did not satisfy the priming manipulation check (did not write at least five sentences for each proposition in the expected direction). These cases were removed from the dataset. The remaining 138 participants (73 males, 65 females) were aged between 20 - 68 years. The sample composed chiefly of Indian (77) and American (55) participants. The mean age of participants in the study was 35.77 years ($SD = 11.74$).

Procedure. The current study was conducted online. Participants were recruited using the crowd sourcing website, Amazon Mturk. The challenges associated with running a successful mindset priming study online are daunting. The lack of control over the experimental conditions introduces a high risk of extraneous variables. In order to maximise the chances of success, a targeted approach to participant recruitment was adopted. First, the researcher used filter criteria on the Amazon Mturk website to target experienced mturk workers with a proven track record of providing high quality work¹⁸. Second, the researcher also tried to reduce the risk of extraneous variables by asking participants to indicate the level of distraction in their immediate environment. Specifically, workers who qualified for the experiment were required to answer the following opening question “*To what extent does your immediate environment provide distractions?*” Participants rated the level of distraction from 1, “*not at all distracting*” to 5, “*extremely distracting*”. Only

¹⁸ The number of HITs (i.e. job undertaken by the worker) for each participant ≥ 5000 . Each participant had an approval rate $\geq 98\%$ for work completed.

participants who indicated that their immediate environment was “*not at all distracting*” were permitted to take part in the study. Respondents who passed this test were then asked to click on a web-link which directed them to questionnaire on surveymonkey.com. An introductory paragraph was used to establish the cover story. Respondents read that they were required to complete 2 separate and unrelated studies. Specifically, participants read that two independent researchers in Dublin City University had been awarded a joint prize and had decided to use their winnings to finance one study each. Participants were informed that they would have to complete both unrelated “studies” in order to received payment from this joint fund¹⁹. Each participant was paid \$1.50 for their participation in the study.

Participants in the procedural priming propositions were tailored to be applicable to an online sample. Participants in the bolstering (counterarguing) conditions responded to the following procedural priming propositions; “*Recycling is a good (bad) idea*”; “*The internet enriches (does not enrich) my mind*”; “*The computer is (not) an important invention*”. Following the priming procedure participants undertook the second study which asked them to evaluate the exotic food (i.e. scorpion snack) advert (see Appendix K). The study measured participants’ perceptual responses; advert evaluation (persuasiveness, appeal) and product evaluation (i.e. snack attractiveness). Participants’ behavioural responses were also measured (willingness to pay for the snack, willingness to volunteer for future studies, number of minutes volunteered for future studies).

¹⁹ “We are inviting you to participate in 2 separate and unrelated academic studies. These two independent studies are being undertaken by different researchers for two different research projects. However, in the interests of efficiency we have decided to include both studies here within this one questionnaire. Both researchers are contributing to the cost of running the studies so participants will be only be paid when both studies are completed”.

5.5.3. Results

In the interest of parsimony only (marginally) significant priming effects are reported below. Tables of the null results are reported in Table 7.27, Table 7.28 and Table 7.29 (see Appendix F).

Willingness to pay. There was no main effect of priming on participants' willingness to pay for the exotic snack, $F(2, 91) = 1.76, p = .177$. There was no difference in participants' willingness to pay for the exotic snack between the bolstering condition ($M = 1.39, SD = 1.44$) and counterarguing condition ($M = 1.33, SD = 1.61$), $p = .817$. However, participants in the counterarguing condition were less willing to pay for the exotic snack than participants in the control condition ($M = 2.09, SD = 1.61$), $p = .098$. However, since only the later contrast was (marginally) significant, H2a was not supported.

5.5.4. Discussion

The results of Study 5 do not provide any evidence of the bolstering mindset. In fact the opposite is the case. Contrary to expectation the only differences found between conditions was observed among participants in the control and counterarguing conditions. Specifically, participants in the counterarguing condition were found to be less willing to pay for the exotic snack than participants in the control condition. While Xu and Wyer (2012) have demonstrated that a counterarguing mindset has a detrimental effect on perceptual judgements of favourable stimuli (e.g. Hotels) the researchers found no evidence to suggest that a counterarguing mindset could further compound the negative perceptions of unfavourable stimuli. Indeed, such a finding runs contrary to their conceptualisation

of these behavioural mindsets which are thought to only with the mindsets are confined to influence response that are incongruent with the mindset.

5.6. Study 6

5.6.1. Introduction to Study

Study 6 attempted to replicate the effects of a counterarguing mindset employing a similar experimental design and using the exact target materials (Advert 1: Swiss Igloo Hotel, Advert 2: Milwaukee) originally used by Xu and Wyer (2012, Study 1). Unlike the original study which only tested a procedural priming procedure, the current study also tests the impact of an episodic priming procedure. All participants in the current study were exposed to one of the two vacation spot adverts (see Appendix K).

5.6.2. Sample and Study Design

The study employed a 3 (mindset: bolstering vs. counterarguing vs. control) x 2 (favourableness of hotel: high vs. moderate) x 2 (priming types: procedural vs. episodic) between-subjects design. Participants were randomly assigned to all conditions. Two hundred and ninety American “Mturkers” participated in the study; 138 participants exposed to an episodic priming condition and 152 participants in the procedural priming condition. Participants were exposed to one of two adverts promotion vacation spots; 43% of participants (127) were exposed to Advert 1 (Igloo hotel in Switzerland) while the remaining 56% of participants (163) were exposed to

Advert 2 (Milwaukee) (see Appendix K). Participants (132 males, 158 females) were aged between 18 – 73 years. The mean age of participants was 35.86 years ($SD = 12.07$).

Procedure. The same inclusion criteria used in Study 5 (worker qualifications and distraction levels in the immediate environment) were again enforced in the current study. Furthermore, in order to try to match the participant profile in the original study, only American participants were permitted to partake in the current study. Participants read the same paragraph relating to the independence of the studies before undertaking either a procedural priming procedure (see Study 5) or an episodic priming procedure (see Study 3 and Study 4). The priming manipulation check revealed that all participants in the procedural priming condition wrote at least five sentences for each proposition in the expected direction. Participants were then exposed to one of the two vacation spot adverts in the second, seemingly unrelated study. Participants' perceptual and behavioural responses to the adverts were measured using a questionnaire on surveymonkey.com. Participants' evaluative judgements relating to advert evaluation (persuasiveness, appeal) and product evaluation (i.e. vacation spot attractiveness) were measured. Participants' behavioural responses (willingness to visit the vacation spot, willingness to pay for a one-night hotel stay, willingness to volunteer for future studies and number of minutes volunteered for future studies) were also recorded.

5.6.3. Results

Analysis of Covariance revealed that there were no effects of procedural priming in this study. Furthermore, only three priming effects were found among

participants who undertook the episodic priming procedure. In the interest of parsimony only the significant priming effects are reported below. Table containing the results are reported in Table 7.33 and Table 7.34 (Appendix F). The correlation matrix for the focal variables is provided in Table 7.35. The means and standard deviations for the perceptual, behavioural and cognitive variables appear in Table 7.35, Table 7.36, and Table 7.37 respectively (see Appendix F).

Advert persuasiveness. There was no main effect of vacation spot attractiveness, $F(1, 106) = .00, p = .950$ or episodic priming $F(2, 106) = 2.07, p = .131$ on participants' ratings of advert persuasiveness. Nevertheless, the means were in the expected direction. Participants in the counterarguing condition ($M = 3.75, SD = 1.58$) rated the vacation spot advert as slightly less persuasive than participants in the control condition ($M = 4.10, SD = 1.92$); $p = .211$, and significantly less persuasive than participants in the bolstering condition ($M = 4.53, SD = 1.54$), $p = .035$. However, since only the later contrast was marginally significant, H1a was not supported.

Willingness to pay. There was a significant main effect of vacation spot attractiveness on participant's willingness to pay for a one night stay at the vacation spot, $F(1, 105) = 18.48, p = .000, \eta_p^2 = .150$. Participants exposed to Advert 1 ($M = 199.72, SD = 139.37$) were willing to pay more for a one night stay at the vacation spot than participants exposed to the Advert 2 ($M = 121.29, SD = 84.50$). There was also a significant main effect of priming on participants' willingness to pay for a one night stay at the vacation spot, $F(2, 105) = 3.16, p = .046, \eta_p^2 = .057$. Participants in the counterarguing condition ($M = 132.20, SD = 127.01$) and participants in the

control condition ($M = 151.10$, $SD = 105.94$), exhibited a similar willingness to pay for a one night stay at the vacation spot, $p = .918$. Interestingly though, participants in the bolstering condition, ($M = 194.68$, $SD = 122.23$) exhibited a greater willingness to pay than participants in the control condition ($M = 151.10$, $SD = 105.94$), $p = .020$ and participants in the counterarguing condition, ($M = 132.20$, $SD = 127.01$), $p = .044$. This result is interesting result because it clearly demonstrates the power of the bolstering mindset to exert a strong influence on participants even when the target stimulus is favourable. This result conflicts with the conceptualisation of the bolstering mindset postulated by Xu and Wyer (2012). Indeed, the counterarguing mindset did not have any influence on participants' willingness to pay. Hence, H2a was not supported.

Willingness to visit vacation spot. There was a significant main effect of vacation spot attractiveness on participants' willingness to visit, $F(1, 106) = 5.75$, $p = .018$, $\eta_p^2 = .051$. Participants exposed to Advert 1 ($M = 4.60$, $SD = 1.99$) featuring the Igloo Hotel in Switzerland were significantly more willing to visit the vacation spot than participants exposed to Advert 2 ($M = 3.56$, $SD = 1.87$) which featured Milwaukee as the vacation spot. However, there was no main effect of priming on participant's willingness to visit the vacation spot, $F(2, 106) = 2.33$, $p = .102$. Nevertheless, the means were in the expected direction. Participants in the counterarguing condition ($M = 3.50$, $SD = 1.77$) were slightly less willing to visit the vacation spot than participants in the control condition ($M = 4.12$, $SD = 2.08$), $p = .359$, and significantly less willing to visit the vacation spot than participants in the bolstering condition ($M = 4.50$, $SD = 1.97$), $p = .035$. Since only the later contrast was marginally significant, H2d was not supported.

5.6.4. Discussion

Study 6 attempted to replicate a counterarguing mindset using both a procedural priming procedure and an episodic priming procedure. As in Study 1, the procedural priming failed to induce effects of a counterarguing mindset. However, as in Study 4, the episodic priming procedure was successful in inducing the counterarguing mindset. Nevertheless, the priming effects evidenced in this study are again weak. Regardless, this pattern of results is at least consistent between studies and corresponds closely with the previous priming effects found. Specifically, participants in the counterarguing condition rated the advert as less persuasive than participants in the bolstering condition. Participants in the counterarguing condition were also less willing to visit the vacation spot featured in the advert when compared to participants in the bolstering condition. More noteworthy is the finding that the participants in the bolstering condition were significantly more willing to pay for a one night stay at the vacation spot compared to participants in control and counterarguing conditions. The strength of the effect and the fact that this is not accounted for by Xu and Wyer's conceptualisation of the mindset is of theoretical interest. It also has serious practical ramifications for consumers. It appears that the bolstering mindset can influence evaluative judgements on both positive and negative target stimuli. What is also striking is that the bolstering mindset consistently increases monetary judgements across studies. This has worrying implications for consumers who appear to be more likely to suffer the deleterious effects of a bolstering mindset than be awarded the cognitive protection offered by a counterarguing mindset.

CHAPTER 6: GENERAL DISCUSSION

6.1. Introduction

There is nothing either good or bad, but thinking makes it so”.

William Shakespeare, Hamlet, Act 2, Scene 2

The above philosophical musings of William Shakespeare assume a prophetic tone in light of recent consumer research on behaviour mindsets. However, one ventures that not even the bard himself truly grasped the full import of his words. Indeed, it is only in the last century that psychologists have begun to map the consumptive implications of cognition (for a review see Wyer & Adaval, 2008). What is more, it is only in the last four decades that psychologists have come to the startling realisation that many of the cognitive processes which drive consumer behaviour often occur outside of conscious awareness (for a review see Wyer, 2008). Mindsets orchestrate many of these non-conscious processes (for a review see Wyer & Xu, 2010). Interestingly, recent research has provided the first evidence of behavioural mindsets influencing persuasive appeals (Xu & Wyer, 2012). Specifically, bolstering (counterarguing) mindsets are found to positively (negatively) influence perceptual, behavioural and cognitive responses to subsequently encountered persuasive appeals (Xu & Wyer, 2012). The research suggests that simply thinking in a critical or reaffirming manner can predispose individuals to re-enacting these thought processes in conceptually similar yet unrelated future situations. Consequently, these newly discovered mindsets have repercussions for consumer resistance. Metaphorically speaking, while a

bolstering mindset may furnish consumers with a pair of rose tinted glasses, a counterarguing mindset may serve them up a glass half empty. To contemporise Shakespeare's assumptive proposition; it appears that *there is nothing either good or bad, but mindsets make it so*.

An emerging body of work has found that consumer mindsets play a significant role in shaping impulsive and automatic consumer behaviours (for a review see Wyer & Xu, 2010). Consequently, the role of mindsets within consumer domains is a prominent topic in consumer psychology. Indeed, for the period 2009 - 2014, the conceptual overview of mindsets provided by Wyer and Xu (2010) ranked in the top 10 most cited academic papers within the field of consumer psychology²⁰. However, few studies have directly explored the interface between mindsets and consumer resistance (Knowles & Linn, 2004).

This final chapter of the thesis begins with an overview of the current research. Here, the primary objectives of the research are outlined and a brief description of each study is provided. The main findings across the 6 studies are then reported and the theoretical and methodological research contributions explicated. Next, the practical implications of counterarguing and bolstering mindsets are outlined for both consumers and marketers. The specific limitations of the current research are also acknowledged and discussed. The chapter draws to a close by identifying potential avenues for future research. Specific questions arising from the current research are firstly discussed. Later, the author looks to new fields of research

²⁰ http://www.myscp.org/pdf/newsletters/mostcited_sep2014.pdf, [01/12/15]

that employ the same methodological approaches and which share a similar thematic outlook. Potentially exciting future research agendas are identified. In order to situate the current research within the academic literature and contextualise its broader relevance, a brief discussion on the future of priming research then follows. Casting light on the specific theoretical, methodological and political challenges associated with priming research, the author predicts the future trajectory of this specialised research within the complimentary field of consumer psychology and social psychology. The thesis concludes by offering recommendations to overcome the current challenges which threaten to road block potential exciting research avenues.

6.2. Overview of the research

A set of 6 experiments were conducted to investigate bolstering and counterarguing mindsets. The primary objectives of the studies were two-fold: 1) to examine the carryover effects of bolstering and counterarguing mindsets and 2) to test the boundary conditions of the priming effects associated with these mindsets. Across the six studies (Studies 1- 6), the research explored the possibility that an individual's motivational orientation moderates the carryover effects of these mindsets. In one study (Study 3), the research also tested the hypothesis that an individual's Persuasion Knowledge (PK) moderates the carryover effects of bolstering and counterarguing mindsets.

Motivational orientation guides human actions across a wide range of contexts and is considered a fundamental building block of behaviour (Carver, 2006). This construct is especially appropriate for the current research since approach and avoidance tendencies characterise bolstering and counterarguing mindsets

respectively and consumer behaviours more generally (Knowles & Linn, 2004a). It was hypothesised that individuals exhibiting strong approach motivation would be especially influenced by a bolstering mindset while individuals exhibiting strong avoidance motivation would be especially influenced by a counterarguing mindset. Persuasion knowledge (PK) was also investigated as a potential moderator of bolstering and counterarguing mindsets. PK is often activated to protect individuals against deceptive and manipulative marketing communications (Friestad & Wright, 2013). It was hypothesised that individuals exhibiting strong (weak) PK would be less (more) influenced by a bolstering mindset (Study 3). The secondary aims of the research were more explorative and scoping in nature. These investigated alternative methods of mindset priming (i.e. episodic priming) and assessed the potentially hidden cognitive costs (i.e. PK suppression) that may accrue as a consequence of mindset activation. The aims of each study are now outlined in the next section.

Study 1 aimed to replicate the carryover effects of a counterarguing mindset and to test if these effects are moderated by avoidance motivation. The study employed the original procedural priming procedure used by Xu and Wyer (2012). However, following the non-replication of the counterarguing mindset in Study 1, an amended procedural priming procedure was used in all subsequent studies. Study 2 and Study 3 aimed to replicate the carryover effects of a bolstering mindset and to test if these effects are moderated by approach motivation. Study 3 also tested the hypothesis that an individual's PK moderates the effects of a bolstering mindset. Study 2 employed a procedural priming procedure. Study 3 used both procedural and episodic priming procedures in order to systematically assess the differential effectiveness of both approaches using a between subjects design. Study 4 aimed to

replicate the carryover effects of a counterarguing mindset and to test if these effects are moderated by avoidance motivation. The study used an episodic priming procedure. Study 5 (Study 6) aimed to replicate the carryover effects of a bolstering (counterarguing) mindset and to test if these effects are moderated by approach (avoidance) motivation. Study 5 and Study 6 were conducted online. Amazon Mturk was used to recruit participants and SurveyMonkey.com was used to collect the data. Study 5 used a procedural priming procedure while Study 6 used both procedural and episodic priming procedures to again systematically test the effectiveness of both approaches.

6.3. Research Contributions

Mindsets are well established cognitive phenomena that have been shown to induce priming effects across a wide variety of human behaviours (for a review see Wyer and Xu, 2010). However, mindsets are inherently fragile phenomena (e.g. Dhar, Huber, & Khan, 2007; Hamilton, Vohs, Sellier, & Meyvis, 2011). The empirical evidence produced by Xu and Wyer (2012) attest to the former, while the data of the current author confirm the latter. The results of the studies generally point to much weaker effects than those reported by Xu and Wyer (2012). The anticipated priming effects were typically found when the experimental conditions were contrasted against each other. However, it is worth noting that while these priming effects are weak, they are in the predicted direction and generally consistent across the studies (see Tables 6.2 and Table 6.3). Table 6.1 summaries the research contributions of the thesis. Table 6.2 provides an overview of the main effects of priming across the 6 studies. Table 6.3

outlines the results of planned contrasts for each of the six studies. The research contributions of the current research are now discussed.

The current research provides both theoretical and methodological contributions to the extant literature on consumer mindsets generally, and bolstering/counterarguing mindsets, specifically. Theoretical contributions are made to the academic literature by demonstrating that (1) the bolstering mindset increases a willingness to pay for aversive and non-charitable products (Study 2), (2) that the bolstering mindset is moderated by approach motivation (Study 2 and Study 3), and (3) that counterarguing and bolstering mindsets may inhibit the activation of incongruent thoughts (Study 2 and Study 3). Methodological contributions are made to the mindset priming literature by (1) using a novel, episodic priming procedure to prime a counterarguing mindset (Study 1, Study 3 and Study 6) and (2) by making refinements to the procedural mindset priming procedure used by Xu and Wyer (2012) (Study 1 and Study 2). Looking across the six studies, a number of insights may be gained by considering the counterarguing and the bolstering mindsets in isolation.

Table 6.1*Overview of Research Contributions*

Contributions	Type	Finding	Study
Main			
Bolstering/Counterarguing	Theoretical	↑ Willingness to pay	Study 2, 3
Thought inhibition	Theoretical	↓ Incongruent thoughts (positive, negative, PK thoughts)	
Approach motivation	Theoretical	Moderates the effects of bolstering mindset	Study 2, 3
Priming procedure	Methodological	New episodic priming procedure	Study 1
Minor			
<u>Bolstering Mindset</u>		<u>Activated by procedural priming only</u>	Study 2, 3
Perceptual variables		↑ Persuasiveness, attractiveness	Study 2
Behavioural variables		↑ Willingness to petition signing, willingness to pay	Study 2,3
Cognitive variables		↑ Number of positive thoughts, ↓ Number of negative thoughts & PK thoughts	Study 2, 3
Implications for Consumers		↑ Spending on moderately aversive propositions	
Implications for Marketers		↑ Behavioural intentions. Potential nudging applications	
<u>Counterarguing Mindset</u>		<u>Activated by episodic priming only</u>	Study 4, 6
Behavioural variables		↓ Willingness to pay	Study 6
Cognitive variables		↓ Number of positive thoughts	Study 4
Implications for Consumers		Strategies for resistance (implementation intentions)	
Implications for Marketers		Strategies for mindset disruption/displacement	

Table 6.2

Main Effects of Priming

Variables	Hypothesis		Study 1	Study 2	Study 3		Study 4	Study 5	Study 6	
			Hotel advert	Web-tax article	Pension scheme Article		Hotel advert	Food advert	Vacation spot advert	
			n = 134	n = 233	n = 162	n = 182	n = 268	n = 138	n = 152	n = 138
			Procedural	Procedural	Procedural	Episodic	Episodic	Procedural	Procedural	Episodic
Perceptual		Persuasiveness		✓						
		Appeal								
	H1a	Ad/Article evaluation								
	H1b	Product attractiveness			✓					
	H5b	Perceived PK								
Behavioural	H2a	Willingness to pay		✓						✓
	H2b	Willingness to volunteer								
	H2c	Minutes volunteered								
	H2d	Willingness to sign petition			✓					
Cognitive	H3a	Positive thoughts			✓		✓			
	H3b	Negative thoughts		✓						
	H3c	PK thoughts								
	H3d	Attitude certainty								

✓ All $ps \leq .10$

Table 6.3*Overview of Planned Contrasts*

Study	Hypothesis	Variable	Control	Bolstering	Counterarguing	p	Effect Size (Cohens d)
Study 2 - Web-tax advert	n/a	Persuasiveness		✓	✓	.022	0.41
	H1a	Advert/Article evaluation		✓	✓	.061	0.33
	H2a	Willingness to pay	✓	✓		.036	0.42
	H2a	Willingness to pay		✓	✓	.001	0.86
	H2a	Willingness to pay	✓		✓	.041	0.40
	H3a	Positive thoughts	✓	✓		.099	0.16
	H3b	Negative thoughts		✓	✓	.030	0.27
	H5b	Perceived PK		✓	✓	.095	0.23
Study 3 - Pension scheme	H1b	Product attractiveness	✓	✓		.043	0.39
	H1b	Product attractiveness		✓	✓	.023	0.43
	H2a	Willingness to pay	✓	✓		.049	0.68
	H2a	Willingness to pay		✓	✓	.067	0.65
	H2d	Willingness to sign petition	✓	✓		.072	0.31
	H2d	Willingness to sign petition		✓	✓	.038	0.35
	H3a	Positive thoughts	✓		✓	.030	0.28
	n/a	Involvement	✓	✓		.040	0.45
Study 4 - Hotel advert	n/a	Persuasiveness		✓	✓	.036	0.40
	n/a	Appeal		✓	✓	.069	0.32
	H1a	Advert/Article evaluation		✓	✓	.034	0.39
	H3a	Positive thoughts		✓	✓	.035	0.43
Study 5 - Food advert	H2a	Willingness to pay	✓		✓	.098	0.47
Study 6 - Vacation spot	n/a	Persuasiveness		✓	✓	.035	0.50
	H2a	Willingness to pay		✓	✓	.044	0.50
	H2a	Willingness to pay	✓	✓		.020	0.38
	H2d	Willingness to visit		✓	✓	.035	0.53

6.4. Theoretical Contributions

The current research makes a number of theoretical contributions to the literature on behavioural mindsets. The results suggest that both bolstering and counterarguing mindsets have the power to promote behavioural intention and inhibit incongruent thoughts. Importantly, the research also demonstrates that the bolstering mindset is moderated by approach motivation. These theoretical contributions to the literature are explicated in the next sections.

6.4.1. Promoting behavioural intentions and inhibiting incongruent thoughts

Counterarguing Mindset. Studies 1, 4 and 6 investigated the effects of a counterarguing mindset on different types of attractive target stimuli (i.e. hotel adverts and vacation spot adverts). The priming effects of a counterarguing mindset were only observed when an episodic priming procedure was employed. The results suggest that the counterarguing mindset has the ability to inhibit the generation of incongruent (positive) thoughts (Study 4) and can decrease an individual's willingness to pay (Study 6). Interestingly, Study 4 provides evidence that a counterarguing mindset can exert an inhibitory effect on positive thought generation. While Xu and Wyer (2012) demonstrated that the counterarguing mindset could promote the generation of negative thoughts, they did not find evidence to suggest that the mindset could inhibit the activation of positive thoughts. These results contribute to our understanding of the counterarguing mindset and demonstrate that the mechanisms governing its operation may be more complex than originally envisaged. Interestingly, Study 5 provides some evidence to suggest that the remit of the counterarguing mindset may be more expansive than originally conceptualised by Xu and Wyer (2012).

Participants in the counterarguing condition were less willing to pay when compared to participants in the control condition. This result was unanticipated because the target stimulus was aversive in nature (i.e. an exotic scorpion snack). In contrast, Xu and Wyer (2012) found that a counterarguing mindset could only exert its influence on attractive stimuli (i.e. hotel advert). The results of Study 5 suggest that the scope of the counterarguing mindset to depress behavioural intentions might not necessarily be restricted to positive stimuli. Future research could explore this possibility further.

Bolstering Mindset. Studies 2, 3 and 5 investigated the effects of a bolstering mindset on different types of aversive target stimuli (i.e. a web-tax, a mandatory pension scheme, and exotic snack food respectively). In contrast to the counterarguing mindset, the effects of the bolstering mindset were only observed when a procedural priming procedure was employed. The current research demonstrates that a procedurally primed, bolstering mindset can positively influence ratings of product attractiveness (Study 3) and promote a greater willingness to pay for aversive propositions (Study 2). While Xu and Wyer (2012; study 3) demonstrated that a bolstering mindset could increase charitable donation intentions they did not specifically test if a bolstering mindset could increase an individual's willingness pay for non-charitable (i.e. commercial) propositions that induce aversive responses. The current research overcomes this potential limitation by testing aversive propositions such as webtax (Study 2) and a mandatory pension scheme (Study 3). This represents an important extension of the research undertaken by Xu and Wyer (2012). Monetary behavioural intentions are of central importance within consumer domains. The ability of the bolstering mindset to increase an individual's willingness to pay is found in Study 2 and Study 3. Indeed, it appears to be the most robust of the priming effects

observed (see Table 6.3). The relative strength of the priming effect on monetary behavioural intentions is relatively stronger than the priming effects observed on perceptual variables (i.e. article evaluations or product evaluations). This is perhaps due to the open format of the “willingness to pay” question which is likely to facilitate priming effects by increasing the potential for misattribution.

Interestingly, the priming effects of the bolstering mindset appear to be context bound. Behavioural intentions unrelated to the target (e.g. willingness to volunteer for future studies, number of minutes volunteered for future studies) are unaffected by the mindset. This suggests that the carryover effects of the bolstering mindset are restricted to influencing behavioural variables directly related to the target. For example, the bolstering mindset induced individuals to sign a petition in support of an aversive proposition but did not induce them to volunteer for future studies. It is worth noting that participants in Study 2 did not exhibit an increased willingness to sign a petition. This suggests that perhaps the bolstering mindset can positively influence behavioural intentions but only if the target stimulus is not overly negative in nature. This caveat provides a new theoretical contribution to the sparse literature and suggests that the gravitational pull of a bolstering mindset may be dependent on the target stimulus. The pattern of results suggests that the bolstering mindset may increase an individual’s willingness to undertake aversive behaviours if the proposition is moderately objectionable but not if it is highly objectionable. In short, the results of Study 2 and Study 3 suggest that the bolstering mindset does not make individuals mindlessly compliant but rather makes them more amenable to reasonable requests. This finding is in line with past research which finds that primes

can only occur when they do not have to compete with strong motivational goals that hinder their activation (Higgins, 1996).

The current research provides some evidence to suggest that a bolstering mindset can impede the activation of negative thoughts (see Study 2) in addition to promoting the generation of positive thoughts (see Xu & Wyer, 2012). This pattern of results mirrors those found for the counterarguing mindset in Study 4. In Study 4, the counterarguing mindset was found to impede the activation of positive thoughts. Taken together, the results suggest that these behavioural mindsets can induce thought inhibition in addition to thought generation. This is a theoretical contribution to the existing literature and aligns with past research that also demonstrates that mindsets may induce thought inhibition (see Taylor & Gollwitzer, 1995).

There is also some evidence to suggest that the bolstering mindset can inhibit the activation of Persuasion Knowledge (i.e. reduce the number of PK thoughts generated). The effect is weak and only observed between the experimental conditions. Nevertheless, such an effect has thought provoking implications for consumers. Mindsets that hamper or subdue PK activation are potentially harmful to consumers who need to navigate an often treacherously deceptive marketplace (Boush et al., 2009). This finding contributes to both the mindset priming literature and to the persuasion knowledge literature. With some notable exceptions (see Kirmani & Zhu, 2007), few studies have sought to build theoretical bridges between these two respective literatures. This is surprising when one considers the stand-alone importance of both topics. Consumer mindsets are important because they influence all stages of information processing and may infiltrate all consumer domains (Wyer, 2012). On the other hand, PK is important because it is “one of the most valuable

socioeconomic resources” available to individuals and is central to consumer welfare (Friestad & Wright, 1999; p. 185). The current research has addressed the gap between these two important literatures.

In sum, the effects of bolstering and counterarguing mindsets are more subtle than those reported by Xu and Wyer (2012). Indeed, the priming effects reported herein are less pronounced than those typically found in well cited goal priming studies. Pashler et al. (2012) found that goal priming studies typically report large effect sizes ranging from $d = 0.5$ to $d = 1$. The authors noted that these priming effects eclipsed the much smaller effects found in perceptual priming studies ($d = .06$).

In the current research, the most prevalent and robust priming effect shared between both mindsets is also arguably the most important; willingness to pay. Specifically, the bolstering (counterarguing) mindset is found to increase (decrease) an individual’s willingness to pay. Few other metrics are more central to consumer behaviour and consumer welfare than willingness to pay. Admittedly, the results of the studies do not provide the same compelling narrative that typifies papers within high ranked psychology journals. However, the implications of the file drawer problem (see Finkel et al., 2015; Simonsohn, Nelson, & Simmons, 2014) and the abundant evidence of publication bias within academia (see Francis, 2012; Sterling, Rosenbaum, & Weinkam, 1995; Versa, Rosenbaum, & Weinkam, 2015) suggest that all may not be as it seems. There is reason to suspect that the oft profusion of statistically significant results may be somewhat misrepresentative of reality. In contrast, the more modest results reported herein are arguably a diagnostic criterion for authenticity.

6.4.2. Approach Motivation moderates the Bolstering Mindset

Both motivational orientation and persuasion knowledge inform the information processing strategies that individuals employ when assessing persuasive appeals (Gerend & Shepherd, 2007; Kirmani & Zhu, 2007; Mann et al., 2004; Sherman et al., 2006; Updegraff et al., 2007). To the author's knowledge, no research has yet investigated the conditions which influence the priming effects associated with bolstering and counterarguing mindsets. Accordingly, the current research makes a theoretical contribution to the scarce literature by testing potential moderators of these mindset priming effects. Across 6 studies, the current research tested the hypothesis that approach (avoidance) motivation moderates the effects of bolstering (counterarguing) mindsets. One study (Study 3) also tested the hypothesis that PK moderated the effects of a bolstering mindset. Past research has found that PK can influence how individuals process advertising appeals (Kirmani & Zhu, 2007). However, no evidence was found to support the hypothesis that PK moderates the bolstering mindset. Nevertheless, the approach motivation was found to moderate the effects of the bolstering mindset (Study 2 and Study 3). Intriguingly though, both studies provide conflicting evidence with regard to the nature of the moderating effect of approach motivation. In Study 2, the hypothesised "fit" effect between approach motivation and bolstering mindset was found. Specifically, individuals exhibiting strong approach motivation were found to be significantly more willing to pay (a webtax) than individuals exhibiting weak approach motivation. This is an important theoretical contribution to the literature. Furthermore, this result is theoretically congruent with regulatory fit theory. Individuals experience regulatory "fit" when they adopt goal pursuit strategies or engage in activities that sustain their motivational

orientation (Avnet & Higgins, 2006). Thus, according to fit theory, when an individual's (approach) orientation fits the cognitive strategies induced by the (bolstering) mindset, stronger priming effects should occur (e.g. Crowe & Higgins, 1997; Friedman & Förster, 2001). This was found to be the case. Past research that has already demonstrated that fit effects increase perceptions of worth and promote increased spending (e.g. Avnet & Higgins, 2006; Avnet & Higgins, 2003; Higgins, 2006). The results of Study 2 therefore provide further evidence in support of the "value from fit" effect (Higgins et al. 2005; Higgins et al. 2003). Interestingly though, the reverse effect is found in Study 3.

In Study 3, individuals exhibiting weak approach motivation were found to be more willing to pay (pension scheme contributions) than individuals exhibiting strong approach orientation. While contrary to the hypothesis formulated by the researcher, this finding is nevertheless another important theoretical contribution to the literature. Offering an explanation for this finding is difficult but not impossible. However, reconciling this counter-intuitive finding with priming theory requires an appreciation of contemporary priming models.

Recent priming models have been used to reconcile some of the many discrepant findings that populate the priming literature. These "constructionist models" explore the impact of contextual and situational demands on priming effects in an attempt to reacquaint empirical evidence with theory. As such, these models seek to provide overarching theoretical frameworks which accommodate a wide variety of moderators while also making provision for counterintuitive or theoretically challenging results. One such model is the Situated Inference Model (Loersch & Payne, 2014).

The Situated Inference Model holds that researchers need to know 1) *what* thoughts the prime activates, 2) *who* these thoughts are attributable to and 3) *where*, i.e., in what context they may be applied (e.g. perceptual, behavioural, motivational contexts). The model asserts that different situations provide different “situational affordances”. Situational affordances relate to the various inferential implications of a prime. Depending on the situation, a prime may provoke different perceptual, behaviour or goal pursuit responses to the same stimuli. For example, the decision to enact a flight or fright behaviour in response to a threatening stimulus is highly dependent upon situational variables. Similarly, priming effects are contextual derived by situational affordances; “when one considers the situated nature of priming, it is no surprise primes affect judgment and behaviour differently in different labs and in samples from different populations....humans are not automatons” (Loersch & Payne, 2014; p. 145-146).

This assimilative priming effect for the non-fit combination of a bolstering mindset and weak approach motivation is puzzling. However, a few possible explanations for this result may be offered. One possible explanation is that the mandatory pension scheme featured in Study 3 represents a financial product that “fits” with low approach motivation. The mandatory pension scheme featured in the study made salient the defensive and prudent nature of saving. Such a financial product is likely to be more congruent with the absence of an approach tendency than the presence of an approach tendency. If one considers that a pension scheme is an avoidance orientated, financial product then it seems quite feasible that individuals with a lack of approach motivation are more likely to be convinced by its merits. Other explanations also exist.

Fujita and Trope (2014) draw attention to the context-specificity of priming effects and postulate that priming effects are actually the result of different self-regulation processes. This theoretical perspective is far removed from the earliest priming models which characterised individuals as the submissive recipients of primes (e.g. Bargh & Pietromonaco, 1982). Fujita and Trope (2014) posit that the effects of a prime are largely dependent upon the nature of the regulatory challenge. The authors suggest that when individuals engage in “structured regulation” they use internal value goals and are thus less likely to be sensitive to any non-goal relevant, situational cues during information processing. In contrast, when individuals engage in “unstructured regulation” they are more sensitive to situational demands and less likely to be led by their goals and internal motivations. It is possible that in Study 3, participants were not led by their internal approach motivation but rather by the external motivation provided by the context. If this was the case, then individuals who do not normally engage in approach behaviours may be differentially more sensitive to the priming procedure than individuals who habitually engage in approach behaviours as a matter of course. The conflicting results with regard to the moderating role of approach motivation add richly to the sparse literature on the bolstering mindset. However, future research is necessary to resolve these inconclusive results. In light of these conflicting results, the author recommends that future studies should be conducted in a psychology laboratory where the contextual variables can be strictly controlled. In addition to the theoretical contributions outlined, the current research also makes a number of methodological contributions to the literature on mindset priming

6.5. Methodological Contributions

The current research makes a methodological contribution to the mindset priming literature by developing a novel, episodic priming procedure that is found to induce a counterarguing mindset. Lesser methodological contributions also accrue from adjustments made to the procedural priming procedure used by Xu and Wyer (2012). Following the non-replication in Study 1, the original procedural priming procedure was refined to 1) make the priming propositions more broadly applicable to a wider audience and 2) make the task framing and task instructions less ambiguous and more conducive to inducing priming effects. Each of the methodological contributions are discussed in the next sections.

6.5.1. New (episodic) and improved (procedural) priming procedures

Episodic priming. Xu and Wyer (2012) demonstrated that bolstering and counterarguing mindsets can be induced procedurally (Studies 1, 2 and 3) and incidentally (Study 4). These demonstrations of priming involved the real time processing of external information. In contrast, the current research explored the possibility that internally generated, recollections of bolstering and counterarguing episodes may prime these mindsets by reactivating the associated cognitive procedures. The current research employed a novel, episodic priming procedure to test this hypothesis. The new priming procedure makes a methodological contribution to the mindset priming literature. Interestingly, while the episodic priming procedure was found to activate a counterarguing mindset it was not found to activate a bolstering mindset.

Studies 1, 4 and 6 investigated the effects of a counterarguing mindset. Study 4 and Study 6 specifically aimed to replicate the effects of the counterarguing mindset using the episodic priming procedure. The episodic priming procedure was found to decrease the number of positive thoughts generated by participants (see Study 4) and decrease participants' willingness to pay for a one night stay at a vacation spot (see Study 6). Studies 2, 3 and 5 investigated the effects of a bolstering mindset. Study 2 specifically aimed to replicate the effects of the bolstering mindset using the episodic priming procedure. However, no evidence of mindset priming effects was found in Study 2. In Study 3 (testing the bolstering mindsets) and Study 6 (testing the counterarguing mindset), both procedural and episodic priming procedures were included to systematically test the differential priming potential of both priming procedures. The inability of the episodic priming procedure to activate the bolstering mindset is interesting. It seems possible that memories relating to counterarguing episodes are more cognitively accessible than memories relating to bolstering episodes. Considering that counterarguing is arguably a more emotionally engaging experience than bolstering, the memories associated with these episodes are perhaps more distinct and easier to recall. In the current research, mood effects were controlled for in all analysis. Consequently, negative affect can be ruled out as a direct causal factor of the priming effects. Another plausible explanation for the result relates to the number of bolstering and counterarguing memories an individual may have access to at any given time. It may simply be the case that counterarguing episodes are more numerous than bolstering episodes in memory. Since counterarguing is the most widely used strategy for resisting persuasion (see Zuwerink Jacks & Cameron, 2003), memories associated with this resistance strategy

may exhibit heightened cognitive accessibility. This heightened accessibility may help explain the results observed. In any case, the current research has demonstrated that in addition to being primed procedurally (see Xu & Wyer, 2012; Studies 1-3) and primed incidentally (see Xu & Wyer, 2012; Study 4), the counterarguing mindset may also be primed episodically. This is a theoretical contribution to the scarce literature. Furthermore, the novel episodic priming procedure used to activate the counterarguing mindset represents a methodological contribution to the mindset priming literature.

Procedural priming. The current research attempted to replicate the effects of a bolstering and counterarguing mindset by adopting the same procedural priming procedure used by Xu and Wyer (2012, Study 1). Studies 1, 4 and 6 investigated the effects of the counterarguing mindset. Study 1 and Study 6 specifically aimed to replicate the effects of the counterarguing mindset using a procedural priming procedure (see Xu & Wyer, 2012). However, no evidence of the counterarguing mindset was found using this approach. Studies 2, 3 and 5 investigated the effects of a bolstering mindset. Study 2 and Study 3 specifically aimed to replicate the effects of the bolstering mindset using the procedural priming procedure employed by Xu and Wyer (2012). In both studies, the procedural priming procedure was found to induce priming effects. In Study 2, the procedural priming procedure increased the persuasiveness of a persuasive appeal and increased participants' willingness to pay (a webtax). It also decreased the number of negative thoughts generated by participants. In Study 3, the procedural priming procedure increased the perceived attractiveness of a counter-attitudinal proposition (mandatory pension scheme) and increased non-monetary behavioural intentions (willingness to sign a petition). It also increased the

number of positive thoughts generated by participants. However, it should be noted that the procedural priming procedure used in Study 2 and Study 3 was an amended version of the priming procedure used by Xu and Wyer (2012).

The inability of the procedural priming procedure to activate a counterarguing mindset is difficult to explain. Considering that counterarguing is more frequently employed in daily life (see Zuwerink Jacks & Cameron, 2003) the author had envisaged that procedurally activating a counterarguing mindset would have been easier than procedurally activating a bolstering mindset. However, the data suggest this is not the case.

Following the failure of the procedural priming procedure in Study 1, a number of refinements were made to the priming procedure to improve its effectiveness and reliability. Amendments to the priming propositions, the task framing and the instruction framing all helped to make the priming procedure more widely applicable. These minor alterations to the procedural priming procedure offer modest methodological contributions to the mindset priming literature but offer important methodological insights to future researchers.

In Study 1, the priming task was entitled “critical writing task” in order to promote critical (counterarguing) thoughts among participants. However, the Masters students sampled appear to have interpreted the word “critical” as “balanced” (writing task). This subtle semantic difference in interpretation induced bidirectional rather than unidirectional message elaboration among the intellectually sophisticated Masters students. In retrospect, this is unsurprising since Masters students are inculcated to think “critically” as a matter of course. Unfortunately, the task framing induced participants to deliberate on the pros and cons of the proposition rather than

the pros or cons of the proposition. This was an unfortunate oversight by the author who later learned that Xu and Wyer had entitled the task “opinions questionnaire”. This more neutral title was less directive and likely promoted more instinctive information processing. Importantly, the actual labelling of the task was not specifically cited in their paper although it was alluded to. The author only became privy to this important information months later when the authors of the original study finally replied to a number of requests for the source materials. At this stage the experiment had already been run. The effect of this small omission highlights the importance of detailed reporting in priming studies and the use of the original materials where possible. These issues have also been highlighted by other researchers (e.g. Brandt et al., 2014). It appears that small details have disproportionately large ramifications which often only become apparent with the benefit of hindsight. Recent researchers have noted the costs of “information leakage” and the importance of the fulsome reporting of operational and situational conditions (Dijksterhuis et al. 2014). Replication efforts remain highly dependent upon a confluence of factors which often remain nameless or unidentified due to the under reporting of non-significant results (i.e. the file drawer problem). The methodological contributions provided by the current research are, therefore, valuable to priming researchers and aspirant “replicators”.

Finally, the current research makes a potential methodological contribution to the mindset priming literature by making refinements to the procedural priming procedure employed by Xu and Wyer (2012). The non-replication in Study 1 highlights the importance of context relevant primes. It also suggests that the procedural priming procedure used by Xu and Wyer (2012) is potentially limited in its

application due to its context specificity. The propositions used by Xu and Wyer (2012) are tailored towards invoking responses from undergraduate students. It appears they are less well suited to postgraduate or non-student populations who may adopt a nuanced and balanced approach when assessing counter-attitudinal information. In order for a procedural priming procedure to be successful, the priming propositions must be applicable to the target sample. Due to the problems associated with the priming propositions in Study 1, all subsequent studies used a priming procedure that employed more reliable priming propositions. The current research designed priming propositions that were generic enough to invoke predictable responses from undergraduate, postgraduate and non-student populations. Specifically, the revised procedural priming procedure used propositions that question the merits of recycling and the utility of computers. Such priming propositions were less likely to be improperly contested or misinterpreted by participants in the studies.

The failure of the priming procedure in Study 1 reinforces the point that priming effects are “who and where” effects that are contextually bound (Stapel, 2011). The results in Study 1, or rather the lack thereof, serves to highlight important differences between postgraduate and undergraduate cohorts in mindset priming studies. While psychology studies rely heavily on student samples (Wilson, Aronson, & Carlsmith, 2010), few studies in the priming literature have noted differences between postgraduate and undergraduate students. Indeed, to the author’s knowledge, no research has made a distinction between undergraduate and postgraduate students in relation to their respective responsiveness to primes. This may be due to the fact that differences between both cohorts are only likely to be observed in mindset priming studies where participants actively engage with the prime and report their

interpretations of it. It would also require that researchers use both postgraduate and undergraduate students in their series of studies to discern the differences between cohorts. From the author's reading of psychology papers, most researchers appear to restrict themselves to convenience samples of undergraduate students. Consequently, the differences found between postgraduate and undergraduate samples may prove important considerations for researchers who wish to use procedural priming techniques. This finding is an important methodological consideration for future researchers who seek to conduct mindset priming studies among different (student) populations.

In conclusion, the current research provides a number of methodological contributions to aid future researchers when designing and conducting mindset priming studies. Specifically, the research offers concrete and actionable methodological recommendations relating to task framing, instruction framing and priming procedure construction. These methodological insights are likely to be valuable to future mindset priming researchers. This insight also serves to stem information leakage within the field of consumer behaviour. More substantially, it offers a novel priming procedure to the scarce literature on bolstering and counterarguing mindsets.

6.6. Practical Implications of the Present Research

Today, consumers are immersed in sensory rich environments “that are easily the most rapidly moving and complex that (have) ever existed on this planet” (Cialdini, 2001; p. 7). The daily demands of everyday life are such that they necessitate low involvement decision-making and the widespread adoption of heuristics (Wyer,

2008). Consequently, consumer environments are likely to be especially conducive to priming effects. The current research has investigated how bolstering and counterarguing mindsets influence resistance towards persuasive appeals. In pursuing this line of enquiry, the research has adopted a consumer-centric perspective. Ironically though, the practical implications of bolstering and counterarguing mindsets reside chiefly within the field of marketing. This is due to the fact that priming effects, are, by definition, non-conscious.

6.6.1. Counterarguing mindset

Implications for consumers. The counterarguing mindset makes individuals more likely to generate negative thoughts and less willing to pay for products. Thus, the counterarguing mindset has implications for both consumer and marketers. The vested interests of consumers (marketers) are generally likely to be best served by the promotion (prevention) of counterarguing thoughts. The current research has found that the effects of a counterarguing mindset could only be replicated using an episodic priming procedure. This priming procedure induced individuals to recall past counterarguing episodes.

Since a counterarguing mindset operates outside of conscious awareness it is not possible for consumers to control its influence. However, the mechanisms that underpin a counterarguing mindset may well be used to consciously boost resistance. For example, it seems feasible that the tactic of recalling, past counterarguing episodes may be beneficial to consumers who experience difficulty in controlling their spending. Such a tactic could potentially be used as an intervention for impulsive

spending. Recent research has already demonstrated the effectiveness of harnessing implicit resistance by recalling past resistance episodes (Fransen & Fennis, 2014).

The mental rehearsal of counterarguing may also provide resistive benefits. Early research on resistance has demonstrated that the act of counterarguing information on a specific topic serves to inoculate the individuals against subsequent persuasion attempts relating to the topic (McGuire, 1964). These “inoculation effects” could be replicated by customers who are willing to mentally rehearse, context specific counterarguing strategies. Specifically, an individual should consider the arguments that the salesperson is likely to employ and then generate counterarguments to counteract these sales gambits. By carrying out this pre-emptive inoculation task, a consumer is much more likely to be able to rebuff the advances of the salesperson during the upcoming sales encounter. Furthermore, recalling past counterarguing episodes and mentally rehearsing future counterarguing episodes is likely to help create “friction” and thus inhibits excessive purchasing by breaking “shopping momentum” (see Dhar et al., 2007). Such counterarguing strategies are likely to help individuals to fully consider the true financial costs of their actions.

Implications for marketers. From a marketer’s perspective, the implications of a counterarguing mindset are troubling. Xu and Wyer (2012) suggest that the counterarguing mindset can be activated procedurally or incidentally. The current research suggests the counterarguing mindset may also be activated episodically. A number of implications follow from these findings. Within a sales context, it is recommended that a salesperson avoid statements that are likely to induce counterarguing responses from the consumer. Indeed, the opposite strategy of inducing potential clients to make a series of positive, affirmative statements (i.e. a

“yes sets close”²¹) is a well-established sales technique. Since a counterarguing mindset can also be activated episodically, marketers should also avoid putting consumers in situations where they have to recall past counterarguing episodes or past customer service failures.

Past research has also demonstrated that distraction and cognitive loading strategies can be used to inhibit an individual’s ability to counterargue (e.g. Keating & Brock, 1974; Osterhouse & Brock, 1970). In contrast to these ethically questionable tactics, marketers might also attempt to disrupt the onset of the counterarguing mindset. Marketers may disrupt the counterarguing mindset by inducing consumers to switch between different modes of thought. This tactic is likely to provide “interference” that will break the mindset (Hamilton et al. 2011).

Marketers may also simply attempt to displace a counterarguing mindset by activating more purchase friendly mindsets. For example, using questioning strategies that induce potential clients to make comparative assessments or engage in low risk decision-making may well increase the likelihood of purchase behaviours being enacted (e.g. Xu & Wyer, 2008, Xu & Wyer, 2007). From an advertising perspective, it also seems prudent to follow the advice of Xu and Wyer (2012) who caution marketers against advertising their products after current affairs shows, news broadcast or any other media coverage likely to induce active or incidental counterarguing. Exposing consumers to brands after these potential primes may be counterproductive from a marketing perspective.

²¹ http://changingminds.org/disciplines/sales/closing/yes-set_close.htm, 01/03/16

6.6.2. Bolstering Mindset

Implications of consumers. The bolstering mindset erodes consumer resistance by favourably increasing perceptions of advert persuasiveness and product attractiveness. However, the most compelling attribute of the bolstering mindset is its ability to increase behavioural intentions (willingness to sign petitions) and monetary behavioural intention (willingness to pay). The latter effect is the most robust mindset priming effect observed in the current research. This particular priming effect is also likely to be especially interesting to marketers who seek to nudge monetary behavioural intentions skyway and thus represents an exciting opportunity for marketing professionals. However, the bolstering mindset is a double edged sword. The discovery of the bolstering mindset is a disconcerting development that has worrisome implications for consumers. Indeed, from a consumer perspective, the mindset provides yet more evidence that they are vulnerable market actors. The bolstering mindset makes consumers soft targets in the marketplace by increasing their (non) monetary behavioural intentions.

Past research has already demonstrated that resource depletion can erode resistance and increase purchasing behaviours (Burkley, 2008, Wheeler et al. 2007). Similarly, various consumer mindsets conspire to relieve consumers of their money; e.g. the which-to-buy mindset (Xu & Wyer, 2007), the comparative mindset (Xu & Wyer, 2008) and the implemental mindset (Dhar, Huber & Khan, 2007; Lee & Ariely, 2006).

Priming effects are the manifestation of source monitoring errors (Loersch & Payne, 2014). Simply put, since mindsets occurs outside of conscious awareness they are difficult to detect. Attempts to continually canvassing internal thoughts in the

hope of identifying their incidental origins would be a Sisyphean task doomed to fatigue and failure. Perhaps a feasible alternative is the deployment of cognitive strategies that minimise the risks associated with a bolstering mindset.

Past research on Implementation Intentions (see Gollwitzer & Sheeran, 2009) and inductive reasoning (see Coutinho & Sagarin, 2006) has shown that cognitive strategies can be used to boost self-regulation and consumer resistance. A similar if X, then Y rule based strategy could potentially be used to promote critical thinking in situations where consumer needs it most. This mode of thinking might be especially useful in negotiation situations for example. One can conceive of various negotiation scenarios where customer's shyness or reluctance to haggle may well hamper their ability to secure a good deal. Within Western cultures haggling is less common and therefore consumers are often relatively inexperienced at actively counterarguing the offers of marketing professionals. Sales professionals (e.g. car salesperson) who have been trained to negotiate can potentially exploit this inexperience. In order to resist the charms of a salesperson and their mindset inducing patten, consumers are advised to formulate concrete, rule based strategies in advance of a sales encounter. By using implemental intensions to guide their interactions with sales professionals and by assigning pre-determined, "walk-away" cut off points in the negotiation, the consumer is less likely to get swept up in the moment. Such mental planning is likely to militate against the activation of the bolstering mindset, which, like other priming effects, is subservient to salient motivational goals.

Implications for marketers. Undoubtedly, there is an appetite among marketing professionals for strategies that may be (ethically) deployed to increase their bottom line. For example, Kolenda (2013) provides a number of inventive

communication strategies and pricing tactics²² that are based on academic research and empirical data. Many of the suggestions offered relate to creative ways of leveraging the impact of message framing and anchoring effects (see Tversky & Kahneman, 1973). These marketing tactics are widely used in the marketplace and can hardly be considered controversial. Other suggestions are based on more contemporary consumer research based on information processing and embodied cognition literatures. Such tactics may also help marketers to subtly tip the psychological balance in their favour. Laudably, Kolenda (2013) appeals to marketers to employ these priming techniques ethically. The use of priming strategies in the marketplace is ethically questionable and likely to provoke a lively debate on the constituent components of “ethical persuasion” (see Perloff, 2013). Regardless of the intention, there can be little doubt that profit maximisation remains a primary goal of many marketing professionals. While this goal aligns well with the bolstering mindset but is incongruous with the goals of consumers. However, this misalignment of goals is not set in stone.

“The path of least resistance is the path of the loser” – H.G. Wells²³

The above quote from H.G. Wells nicely encapsulates the implications of the bolstering mindset within the context of a commercial paradigm. The current research has also taken the philosophical position that consumer resistance is inherently

²² <http://www.nickkolenda.com/psychological-pricing-strategies/>, 05/04/16.

²³ <http://www.goodreads.com/quotes/649263-the-path-of-least-resistance-of-the-path-of-the>, [01/09/15]

desirable. However, this is an over-simplification of the matter. Indeed, often consumer resistance is unwarranted and unhealthy. The incongruous relationship between the bolstering mindset and consumer welfare is not fixed but rather a matter of context. For example, goal alignment could be achieved by leveraging the bolstering mindset to promote pro-social goals rather than commercial goals. Governments are particularly interested in promoting pro-social behaviour and have a vested interest in behaviour change.

The Behavioural Insight Team (BIT), aka “the nudge unit” became the world’s first government institution dedicated to the application of behavioural sciences²⁴. Based on the work of Sunstein & Thaler (2008), the BIT apply “Nudge Theory” to promote pro-social change and consumer wellbeing through non-coercive means. Enshrined within Nudge Theory is the guiding philosophy of “libertarian paternalism” which dictates the ethical parameters of “nudging”. “Nudges” frequently involve inexpensive manipulations of “choice architecture” that can produce impactful and cost-effective behavioural interventions. For example, simply changing the sign-up default in an organ donation programme from “opt out” to “opt in” almost doubled (i.e. 42% to 82%) the number of organ donors in the programme (Goldstein & Johnson, 2003).

The BIT have recently produced a framework to help policy makers optimise the design and implementation of their policies. Specifically, the “MINDSPACE” report identified “9 of the most robust (non-coercive) influences on (human) behaviour” (Dolan, Hallsworth, Halpern, King, & Vlaev, 2010; p. 8). These

²⁴ <http://www.behaviouralinsights.co.uk/about-us/> [06/04/16]

influences are captured in the mnemonic MINDSPACE; Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitments, Ego). These are the most potent behavioural change strategies that behavioural science has to offer. However, by the authors own admission, priming is the least well understood of these behaviour change strategies. Nevertheless, emerging research hints at the potential of this subtle, albeit subversive approach to promoting behavioural change.

Research has demonstrated that environmental cues influence consumer consumption patterns for good or for ill. For example, Wansink & Kim (2005) demonstrated that larger containers primed individual's to eat more. The colour of cutlery is also found to prime consumption patterns. For example, Genschow, Reutner and Wänke (2012) have found that red product packaging can reduce food intake and snacking. Research has also demonstrated that priming can also promote healthier lifestyles. Wryobeck and Chen (2003) found that activating concepts related to fitness and health induced individuals to use the stairs rather than the lift. In light of such research, "government should seek the ways it may be unintentionally priming people - or it may seek to "build in" priming effects to its current attempts to change behaviour" (Dolan et al., 2010; p. 25).

The bolstering mindset appears potentially compatible with Nudge theory. Indeed, it is quite plausible that the bolstering mindset may find application in domains where consumers are encouraged to take moderately aversive actions. Considering the power of the bolstering mindset to increase willingness to pay, the potential for its application in areas relating to taxation and the payment of fines (e.g. traffic offenses) are areas worthy of further investigation. The bolstering mindset is likely to be particularly effective in scenarios where the behaviour being sought is

ultimately in the individual's interest (e.g. a pension scheme sign up) but where inertia or mild aversion impedes the behaviour itself.

It is worth noting that the procedural nature of the bolstering priming also lends itself to the administrative form filling that already typifies many citizens' interactions with governmental and state bodies. Thus, it seems feasible that a subtle bolstering priming procedure could be inserted into these forms to nudge individuals towards more pro-social goals. Indeed, Dijksterhuis (2014) commends emerging research that has begun to explore the use of behaviour priming within pro-social contexts (e.g. fund raising, health eating, and anti-smoking initiatives). However, despite the pro-social goals of Nudge Theory, the deployment of priming strategies by governments is highly controversial and evokes unsettling thoughts of an Orwellian future. Both researchers and the public at large are left to ponder the age old question. Do the ends justify the means?

6.7. Limitations of the Research

“Take, say, physics, which restricts itself to extremely simple questions. If a molecule becomes too complex, they hand it over to the chemists. If it becomes too complex for them, they hand it to biologists. And if the system is too complex for them, they hand it to psychologists”.

– Noam Chomsky (Lawton, 2012²⁵).

Almost two centuries ago, philosopher August Comte first proposed that not all sciences demonstrated the same explanatory power. Comte's “Hierarchy of Science”

²⁵ <http://chomsky.info/20060301/>, [04/04/15]

postulated that “scientific disciplines differ(ed) systematically in the complexity and generality of their subject of study, in the precision with which these subjects are known, and in their level of intellectual and historical development” (Fanelli, 2010 p. 1). “Hard” sciences such as physics deal with inanimate objects and study closely definable variables. “Softer” sciences such as psychology deal with human cognition. Consequently, while harder sciences lend themselves to definite answers, psychology does not. The complexity of the human condition does not submit to the same level of analytical interrogation nor relinquish the same certitudes that elemental entities proffer (Cesario, 2014). Accordingly, while most view psychology as a soft science, in terms of conducting rigorous research, it may well be “the hardest of sciences” (Cesario, 2014 p. 45).

The current research has a number of strengths. Firstly, the current research has investigated an important consumer welfare issue that has practical implications for consumers. Consumer mindsets are important determinant of consumer behaviour (Wyer, 2012). However, few studies have adopted a consumer-centric perspective when investigating consumer mindsets. The current research makes a much needed contribution to the overlapping, yet under developed literature on consumer resistance and consumer mindsets. Second, the research has used large sample sizes to investigate the effects of bolstering and counterarguing mindsets. The relatively large sample sizes permitted high powered studies which increase the credibility of the research findings. Third, the research has used samples which are likely to differ significantly from those used in the original studies. The Irish samples used in the research (Studies 1 - 4) help to establish the generalisability and robustness of these

mindsets outside of an American cohort. Nevertheless, the current research does have a number of limitations which must be acknowledged.

The current research has a number of limitations; 1) the data collection did not take place in a psychology laboratory, 2) a funnel debrief was not administered in all studies, 3) the behavioural measures used in the online studies (Study 5 and Study 6) may not have been valid, and 4) the convenience sampling of university students (Studies 1 - 4) limits the generalisability of the results. These limitations will now be discussed in more detail.

First, the studies did not take place in a strictly controlled psychology laboratory. These facilities were not available at the author's university. A psychology laboratory would have provided the researcher with the ability to control for external influences and minimise the threat of extraneous situational variables. Such considerations are likely to be especially important when attempting to replicate priming effects that may be sensitive to situational affordances.

Studies (1, 3 and 4) took place in small group settings. In contrast, Study 2 took place in large lecture hall. Study 5 and Study 6 were conducted online. In all studies, precautions were taken to minimise the effects of extraneous variables and to ensure the adequate control of situational variables. For example, in Studies 1 - 4, all participants sat apart from each other and participants were not permitted to communicate with each other. This removed the threat of distraction or influence from other participants. It also ensured that participants believed they were exposed to the same priming propositions and target stimuli. In order to reinforce the cover study, all participants received 2 envelopes containing the materials for both "independent studies". Similar precautions were taken when conducting the online studies (Study 5

and Study 6). In these studies, a screening question was used to remove individuals who reported distractions in their environment. Nevertheless, the inability to ensure control over all the situational variables in the studies may have compromised the strength of the priming effects observed. That said, mindset priming effects are theoretically less volatile than other priming effects (e.g. subliminal priming effects) where the participant's undivided attention is paramount. It is questionable whether the additional control afforded by a psychology lab setting would have had a significant bearing on the results.

A second limitation of the current research relates to the inability to administer a funnel debrief in all studies. While the current research did provide participants with a highly credible cover story, the author cannot be sure that all participants were fully convinced. Ideally, a funnelled debrief would have been used in all studies rather than only in Study 5 and Study 6. A funnelled debrief involves a series of questions that probe participant's general awareness and specific suspicions regarding the true goals of the study. The specificity of the questions asked "funnel down" from broad open questions to narrow probing questions. For example, Chartrand & Bargh (1996) asked participants to indicate (a) what they thought was the purpose of the experiment, (b) whether they thought any of the different tasks had been related, (c) whether anything they had done on one task had affected what they had done on any of the other tasks. Bargh and Chartrand (2000) suggest that a funnelled debrief is important in order to establish if the cover story has been believed by participants. A credible cover story is important because it reduces the risk of demand effects that threaten to compromise the results (Bargh & Chartrand, 2000). It also reduces the risk of contrast effects that have been found to occur when a priming procedure is too blatant or the prime too

explicit (Martin, Seta & Crelia, 1990). Mindset priming studies are vulnerable in this regard since participants have to actively engage with the prime and elaborate upon its implication (Bargh & Chartrand, 2000).

In the current series of studies, a two task priming paradigm was employed. Participants were informed that the two ostensibly unrelated studies were being undertaken by two different researchers. Specifically, participants were told that the first study belonged to the author's supervisor who had asked that the author use this opportunity to disseminate her research questionnaire in addition to his own "advertising" study. This cover story was designed to sound authentic and plausible. In order to reinforce this cover story, different coloured paper and different formatting styles were used in the documentation for each study. However, in order to protect the integrity of the cover story, the author did not have the opportunity to administer a funnelled debrief. The desire for large sample sizes in the studies necessitated that the data be collected over a number of sessions. Rather than administering a funnelled debrief at the end of each data collection session, participants were instead provided with a debrief letter after all the data were collected. This approach ensured that participants could not jeopardise the study by relaying the true nature of the study to classmates. However, this approach did not permit the researcher to ascertain the participant's perceptions with regard to the independence of the studies. The design of future studies could be improved to address this issue. For example, by having a confederate pose as the researcher for the "second study" would likely add further weight to the cover story. To reinforce the cover story still further the second "researcher", perhaps another PhD candidate, could make a separate pitch for

participation in “their” study. The author recommends the adoption of this approach in future mindset priming studies.

While there is no way to know for sure if participants fully believed the cover story, there are two reasons for cautious optimism. First, both online studies (Study 5 and Study 6) employed the same two-task experimental design used in the previous studies. In these studies, the researcher had the opportunity to ask participants if they could detect any link between the two ostensibly unrelated studies. No participants reported seeing a link between the studies. Even when specifically asked to guess, none of these guesses were correct. However, it may be argued that these online experiments are problematic because participants may be unwilling to admit seeing a link between studies in case this might jeopardise their chances of payment. It may also be argued that online participants have less opportunity to discern links between the studies given the piecemeal fashion of the work on Amazon Mturk. Arguably, participants involved in offline experiments are more likely to be able to see through a cover story than online participants. However, if this was the case then contrast effects should theoretically affect both experimental conditions within the one experiment. No such pattern of results was found.

A third limitation of the current research relates to the behavioural intentions measures used in Study 5 and Study 6 (i.e. willingness to volunteer for future studies, number of minutes volunteered for studies). In the interests of maintaining a consistent approach between studies, both these measures were retained in Study 5 and Study 6. However, there is good reason to suspect that both these measures are problematic when one considers that participants in these studies are likely to expect remuneration for any additional time “volunteered”. Considering the financial

incentive to indicate a willingness to participate in future studies, it is likely that most participants were willing to “volunteer” their time for some presumed monetary reward. However, while problematic, these measures should still have the ability to detect priming effects, although their sensitivity to measures differences between conditions is hampered by the financial incentives offered. In any case, since no differences were detected between the priming conditions for these variables, this point is moot.

A fourth limitation of the current research relates to the sampling methodology employed in the current set of studies. Past research has highlighted the dangers of using student samples in psychological research (Henrich et al., 2010). The convenience sampling of students gives rise to questions relating to the generalisability of the results. However, convenience sampling is a long standing problem within the field of social psychology which has traditionally relied heavily upon student samples (Wilson, Aronson, & Carlsmith, 2010). While the current study is also guilty of convenience sampling college students, it does have the merit of using non-American samples (Studies 1 - 5). This is important. Psychology studies that use non-American samples are especially valuable since non-American samples are massively under-represented in the academic literature (Arnett, 2008; Henrich et al., 2010). Despite the fact that Americans represent less than 5% of the world population, 95% of papers published in the top six American Psychological Association journals are results from American samples (Arnett, 2008). Studies 1 - 4 used Irish student samples to test the generalizability of counterarguing and bolstering mindsets on a non-American sample.

In sum, the current research has a number of limitations. However, these limitations are by no means insurmountable obstacles to future research. In order to overcome the limitations of the current research the author recommends that 1) future mindset priming studies are conducted in a psychology laboratory, 2) a funnel debrief is administered after all data collection sessions, 3) a confederate is used to reinforce the cover story, 4) all dependent variables relating to volitional actions are omitted in studies that use samples that are fiscally motivated, 5) future studies attempt to source participants from non-student populations. The first four measures will serve to increase the internal reliability of future studies. The fifth measure will serve to increase the overall ecological validity of future studies. The final sections of the thesis will now discuss the potential for future research. The barriers to future research will also be outlined and discussed in order to provide the reader with a full idea of how this research might manifest itself.

6.8. Future research

In recent years the calls for greater replication efforts within the fields of consumer behaviour and social psychology have reached fever pitch (e.g. Kahneman, 2012; Koole & Lakens, 2012; Simons, 2014). This research is a timely answer to the vociferous calls to action by commentators both inside and outside the field of psychology. The research has also acceded to the more specific request for theory building efforts within the field of consumer psychology. Specifically, the research has answered the recent call by proponents of priming research who have implored their research peers to focus their investigative efforts on moderator testing. (see Dijksterhuis, Knippenberg, & Holland, 2014; Fujita & Trope, 2014). The current

preoccupation with vogueish demonstrations of ever more exotic priming effects has had a detrimental impact on theory development within the field of consumer psychology (Dijksterhuis, 2014). The decline of research exploring the boundary conditions of priming effects has resulted in a theoretically impoverished literature which needs to be reconstituted (Dijksterhuis, 2014). Other scholars echo these sentiments; “we propose that more needs to be done to understand the active “ingredients” in priming effects and how these ingredients operate and interact” (Fujita & Trope, 2014; p. 69). Dijksterhuis et al. (2014) have called upon researchers to renew their efforts to rectify this situation. Indeed, in a recent paper entitled “*Welcome Back Theory*”, the main author specifically calls for a resurgence of research on moderating effects (Dijksterhuis, 2014). Future consumer research must continue to answer this call. In this last section of the thesis, the author will briefly identify some of the outstanding questions raised by the current research. It will also identify future research questions that lie at the rarely explored interface between consumer mindset and consumer welfare.

A number of specific questions arise as a direct consequence of the current research. For example, further research needs to be undertaken in order to resolve the puzzling relationship between approach motivation and the bolstering mindset. The conflicting evidence which suggests that both strong and weak approach motivation can strengthen the effects of a bolstering mindset is intriguing. This vexing question certainly warrants further investigation given the theoretical dividend and practical marketing applications on offer. Future lab based studies may resolve these conflicting findings by strictly controlling the research environment and thus reducing the situational affordances indirectly offered to study participants. Methodological

questions also require investigation. For example, the researcher's inability to replicate a counterarguing (bolstering) mindset using a procedural (episodic) priming procedure remains a source of confusion. Both questions warrant further investigation. It may simply be the case that bolstering episodes are less concrete in memory and thus may not boast the same priming potential as counterarguing episodes. One way around this potential issue might be to ask individuals to imagine a specific bolstering scenario rather than recall a particular bolstering episode. Future research on the counterarguing mindset could potentially strengthen the procedural priming procedure further by asking individual to specifically counterarguing a counter-attitudinal proposition rather than simply inducing them to do so. Future research could also explore the possibility that a counterarguing mindset might increase an individual's confidence in their ability to counterargue. It would be interesting to assess if there is a motivational by-product to a counterarguing mindset. The current research found no evidence to suggest that a counterarguing mindset influences meta-cognition. Indeed, neither the counterarguing nor the bolstering mindset were found to influence attitude certainty. However, it remains to be seen if asking individuals to recall counterarguing memories might influence how self-confident they feel about their ability to resist persuasive attacks. The ease with which individuals can retrieve counterarguing memories may well influence their self-perceptions. It is also worth considering that participants in the current studies may have recalled situations in which they engaged in counterarguing behaviours but where they, nevertheless, lost the argument. It is possible that future research could test if the outcome of the counterarguing episodes influences the strength of the priming effect observed.

Taking a broader perspective, a number of exciting lines of inquiry come into view. The role of priming pro-social behaviour in line with the paternalistic ideals of Nudge Theory is an interesting if somewhat provocative prospect. The priming of different “good-citizen” mindsets could potentially nudge individuals towards better, safer, co-operative behaviours. While this is an underdeveloped area of social research, the significant theoretical and practical implications of such a research agenda are self-evident. Despite the intimidating ethical quagmire that surrounds this emergent field of research, this research domain area holds the promise of exciting and potential impactful research. Future research could also adopt a more direct approach to promoting consumer welfare.

In contrast to marketers, the power of consumers is more distributed and their vested interests more diverse. From a consumer perspective, future research on consumer resistance might profitably investigate protective cognitive strategies that empower consumers in the marketplace. As we have seen, maintaining a measure of mental sovereignty is an ongoing and onerous exercise in defensive resistance. Psychological interventions that could help consumers to assess the credibility of a persuasive appeal, the honesty of a sales claim or the credentials of a persuasion agent would be of significant practical value to vulnerable customers. For example, it is likely that children would benefit from being taught how to systematically assess marketing communications from an early age. The same might be said of elderly consumers who have been forced to migrate to online consumerscapes. Counterarguing tactics would likely underpin the inductive strategies used by consumers to protect themselves in the marketplace.

Using a social psychological lens, this doctoral research examined how bolstering and counterarguing mindsets influence consumer resistance. In binary opposition to a marketing perspective, the current research has adopted a consumer-centric posture that views consumer resistance as a protective resource to be maintained rather than an obstacle to be surmounted. This value laden perspective holds that the ability to resist the machinations of marketers is central to both the welfare of consumers and to society at large. Financial debt, obesity, and an assortment of addictions have been linked to low levels of self-regulation (Baumeister & Heatherton, 1996; Baumeister, Vohs, & Tice, 2007; Muraven et al., 1998). Perhaps today, more than any other time in history, a consumer's ability to self-regulate and resist the advances of marketers is ever more important.

To the author's knowledge, the current research provides the first supporting evidence for bolstering and counterarguing mindsets. The current research has demonstrated that these mindsets can influence perceptual, behavioural and cognitive responses to persuasive communications. It has also shown that an individual's approach motivation can influence the effects of the newly discovered, bolstering mindset. Admittedly, the priming effects observed are weaker than those reported by Xu and Wyer (2012). This is not in itself surprising. Indeed, many would argue that weaker priming effects are to be expected (e.g. Wheeler, DeMarree, & Petty, 2014). Weak priming effects may even be considered a defining characteristic of replication studies (Cesario, 2014). In any case, the current research has investigated an important research that has important implications for consumers. There already exists an abundance of research advising marketers and salespersons on how to improve their market position and further their vested interests. However, the same

cannot be said for consumers who lie on the wrong side of the transactional divide. The current research has aimed to make a start at redressing this imbalance. Future research should continue to explore consumer resistance and continue to tackle the current knowledge deficit in the academic literature. However, in order to pursue this important research agenda, researchers must surmount both theoretical and political hurdles that may impede their future progress. This final section of the thesis discusses these challenges.

6.9. Barriers to future research

Priming research is still in its infancy and remains at an early stage of evolution (Cesario, 2014). The conceptually fuzzy boundaries between different types of priming effects and the lack of a unifying theory within the field are issues of concern (Ferguson & Mann, 2014). However, recent public denouncements of priming research are both unwarranted and unhelpful (Ferguson & Mann, 2014). Priming effects are well established within psychology literature and are supported by decades of research (e.g. Janiszewski & Wyer, 2014). According to Ferguson and Mann (2014), the controversy surrounding priming studies is due to “definitional imprecision”. The authors note that most of the controversies surrounding priming effects relate to a narrow subgroup of priming studies that have emerged in the last 20 years, namely “goal priming”, “behaviour priming” or “social priming”. Ferguson and Mann, (2014 p. 34) rightly point out that “the recent publicity frenzy surrounding priming” is driven by critics who refer to different types of priming as if they are distinct categories; e.g. priming (Yong, 2012), social priming (Kahneman, 2012), goal priming (Pashler et al., 2012) or behavioural priming (Doyen et al., 2012). While

Förster et al. (2007) do specify criteria for identifying goal priming effects they do concede that the conceptual lines of demarcation for priming effects are blurry and imprecise. For example, Xu and Wyer (2012) invoke “goal” systems theory to describe the operation of “behaviour” mindsets (i.e. counterarguing and bolstering mindsets) that have been primed using a “procedural” priming procedure. Murky definitional distinctions aside, the primary reason for the controversy surrounding social priming, behavioural priming, or goal priming studies is due to the large effect sizes they tend to report (Ferguson & Mann 2014).

The strength of the effect sizes reported in goal priming studies has raised doubts among some researchers who find the results counterintuitive and improbable (e.g. Pashler & Wagenmakers, 2012). Pashler et al. (2012) argue that goal primes are abstract in nature when compared to the more concrete semantic primes that operate via a more direct mechanism (i.e. spreading activation). Thus, the large effects found in goal priming studies seem counterintuitive. Pashler et al. (2012) also suggest that the relatively small number of underpowered goal/behavioural priming studies may be indicative of a large body of unsuccessful studies that have been consigned to the file drawer. The researchers also note that abstract primes such as stereotypes are problematic because of the numerous downstream dependent variables that the concept could potentially activate. They argue that the wide choice of dependent variables provides researchers with too much interpretative discretion. However, proponents of priming research dismiss these objections as a “disregard of theory in combination with premature or faulty logic” (Dijksterhuis, 2014 p. 72). Dijksterhuis et al. (2014) contend that critics of priming studies are ignorant of the subtleties that characterise the research. They also make the point that “research on issues such as

free will, unconscious processes, and automaticity is sometimes, unavoidably so it seems, ideological....not trusting an effect because it is counterintuitive is often essentially a form of circular reasoning” (Dijksterhuis et al., 2014 p. 200).

Dijksterhuis (2014) asserts that behavioural priming studies produce strong priming effects because they tend to use stronger primes. Indeed, Dijksterhuis (2014) argues that human behaviour is the most natural and ecologically valid measure of construct accessibility. Dijksterhuis (2014) also addresses the apparent lack of evidence for behavioural priming research. The author estimates there are now between 200 - 400 empirical papers that have reported some evidence of behavioural priming effects. While this represents a small subset of the estimated 12,000 priming studies conducted within the social sciences (Janiszewski & Wyer, 2014), it nevertheless represents a significant body of evidence in support of behavioural priming effects. However, doubts remain. In light of recent developments within the field of social psychology, distrust has become an occupational hazard for social psychologists. Recent tectonic changes within the field of social psychology have precipitated the emergence of a new research landscape which future researchers will have to carefully navigate.

"The great enemy of the truth is very often not the lie, deliberate, contrived and dishonest, but the myth, persistent, persuasive and unrealistic." - John F. Kennedy

It would be remiss of the researcher not to mention the elephant in the room; the “crisis within social psychology”. Social psychology has weathered a “storm of doubt” in recent years. Rocked by high profile frauds and misconduct cases (e.g.

Diderick Stapel, Karen Ruggiero, Marc Hauser, Dirk Smeesters and Lawrence Sanna), speculation regarding the validity and indeed the veracity of results is now commonplace both inside and outside of the field (Yong, 2012). To exasperate matters, there is a rising chorus of discontent among frustrated researchers who are consistently failing to replicate the “elusive” priming effects reported in the literature (e.g. Shanks et al., 2013). The prevailing headwind of scepticism and distrust blowing through the field has proponents of priming research feeling “under siege” (Dijksterhuis, van Knippenberg, Holland, & Knippenberg, 2014). These feelings may be well founded. Prominent critics cite fears of a “train wreck looming” within the field of social psychology (Kahneman, 2012). In short, social psychology has become a “poster child for doubts about the integrity of psychological research” (Kahneman, 2012). At the heart of the problem are priming studies.

Problems associated with replicating priming effects have been widely reported in academic literature (e.g. Doyen et al., 2012; Pashler et al., 2012; Yong, 2012). Kahneman observes that early stage researchers are most likely to suffer as a consequence of the recent revelations that have shrouded the field in controversy. Greater transparency and documentation are deemed necessary to restore the credibility of the field. Nobel laureate Daniel Kahneman characterises himself as a “general believer in priming”²⁶. However, he believes the defensive posture taken by some prominent researchers (namely Dijksterhuis and Bargh) is counter-productive. Despite repeated calls to develop a priming protocol to enable researchers to replicate his results, Dijksterhuis has steadfastly refused saying that “focusing on a single

²⁶http://www.nature.com/polopoly_fs/7.6716.1349271308!/supinfoFile/Kahneman%20Letter.pdf, [01/06/15]

phenomenon is not that helpful and won't solve the problem"²⁷. Dijksterhuis also suggests that rigor should not be applied retrospectively but rather used to ensure future studies are fully tested. This movement towards full transparency will inevitably slow the career progression of researchers engaged in this research. The days of piecemeal publication may also be coming to an end. Piecemeal publication is defined as "the unnecessary splitting of the findings from one research effort into multiple articles" (APA, 2010; p. 13). Finkel et al. (2015) accuse past researchers of engaging in piecemeal publication. Indeed, the authors speculate that such academic opportunism has potentially contributed to false positive results within the scientific literature. It is only through the eradication of such practices that the future of consumer research may be secured. Similar sentiments have been expressed with regard to the field of social psychology (Kahneman, 2012).

Within social psychology, the rudimentary role of replication has been underappreciated and actively disincentivised. Replication efforts require a community of researchers who are willing to invest time, energy and resources into an inherently risky venture. Admittedly, many of the priming effects uncovered in the current research are subtle, or to be more blunt, weak. However, this is the lot of the would-be replicator. To prevaricate about the "weak" effects is to digress from the substantive issue. Replication remains the cornerstone of all sciences. The escalating pressure to publish statistically significant results has contributed to the crisis that the field now finds itself in. In contrast to those gifted with compliant data and consolatory p values, the lassitude that invariably accompanies less co-operative data

²⁷<http://www.nature.com/news/disputed-results-a-fresh-blow-for-social-psychology-1.12902>,
[04/04/15]

has traditionally been exasperated by the diminished opportunities for publication. Hopefully, recent developments within the field of social psychology will help foster a research environment where the costs of exercising restraint and caution are rewarded rather than punished. The future survival of social psychology as a field of study may well depend upon this.

Securing the future survival of social psychology as a field of study is hugely important. It is little over a century ago since Norman Triplett's seminal study on social facilitation effects (see Triplett, 1898) gave birth to the field of social psychology. In the intervening years, the scope of the field has expanded immeasurably and delivered powerful insights into human nature and the social world we inhabit (see Fiske, Gilbert, & Lindzey, 2010). The importance of social psychology becomes self-evident when one considers its perennial relevance. Its importance is also evidenced by its ability to contribute to various field of study (e.g. neuroscience, psychology and sociology etc.). Importantly, social psychology has demonstrated an ability to build theoretical bridges between these previously disparate domains.

In recent times, social psychologists have preoccupied themselves by trying to unravel the subtle priming effects that saturate social situations (for a review see Hassin, Uleman, & Bargh, 2005). Priming effects preside over our everyday lives and infiltrate virtually all aspect of the human condition. Primes are embedded within the fabric of our social and physical worlds. Furthermore, primes both influence and are influenced by these interconnected worlds. Within consumer domains, these symbiotic worlds combine intractably. What is more, the costs and consequences of priming effects are likely to be most keenly felt within consumer domains due to

transactional nature of the environment. Accordingly, consumer psychologists have taken up this investigative challenge with vim and vigour. However, this enthusiasm and ambition must be tempered with the requisite rigor. In order to secure the future of the field it falls to a new generation of researchers to seek restitution for their efforts without recourse to “data dredging” or “significance chasing” antics. In short, priming research must continue but at a slower, safer pace.

The current research has replicated the priming effects of bolstering and counterarguing mindsets. The mindsets have been found to influence perceptual (persuasiveness, proposition attractiveness), behavioural intentions (willingness to pay, willingness to sign a petition) and cognitive variables (the number of positive thought generated and the number of negative thoughts generated). In conclusion, the priming effects are weaker than those found by Xu and Wyer (2012). However, as discussed, this is to be expected and in line with the results of replication studies generally. Indeed, the modest effects reported here are arguably indicative of authentic results. They also perhaps exemplify the slower, safer pace of future priming research.

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APPENDICES

Appendix A: Formal Documents

Ethical Approval for Research

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University



Mr. Brian Harman
DCU Business School

2nd November 2012

REC Reference: DCUREC/2012/174

Proposal Title: **Investigating the carryover effects of priming in consumer domains**

Applicants: Mr. Brian Harman, Dr. Janine Bosak

Dear Brian

This research proposal qualifies under our Notification Procedure, as a low risk social research project. Therefore, the DCU Research Ethics Committee approves this research proposal. Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee. Should substantial modifications to the research protocol be required at a later stage, a further submission should be made to the REC.

Yours sincerely,

A handwritten signature in black ink that reads 'Donal O'Mathuna'.

Dr. Donal O'Mathuna
Chairperson
DCU Research Ethics Committee



Talghde & Nuálaíocht Tacalocht
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Plain Language Statement

Two, independent and unrelated studies being are undertaken.

Study 1
The purpose of this study is to assess DCU student's ability to express their views on various topics/memories.
Principal investigator: Janine Bosak, DCU Business School

Study 1 will involve a writing task lasting no longer than 15 minutes.

Study 2
The purpose of this study is to investigate how personality traits influence a person's evaluation of a newspaper article.
Principal investigator: Brian Harman DCU Business School Email: brian.harman2@mail.dcu.ie

Study 2 will involve participants viewing a newspaper article and rating it in terms of its persuasiveness. Participants will also be asked to complete two personality questionnaires. The study will last no longer than 20 minutes.

Plain Language Statement

Data will be maintained and stored securely for the duration of both research studies. All the data collected is private and confidential. Data will not be disseminated to any other individuals or parties outside of the respective studies. The anonymity of participants will be respected at all times. No data will be collected which would permit the subsequent identification of any participant. Data will be destroyed when it is deemed no longer of use to the researchers as compliant with the Data Protection Act 2003.

Participants are advised that participation in both studies is voluntary. Participants are free to withdraw from the study at any point. Non participation in either study will not result in any adverse effects for any persons.

If participants have concerns about this study and wish to contact an independent person please contact:

The Secretary, Dublin City University Research Ethics Committee,

c/o Office of the Vice-President for Research,

Dublin City University,

Dublin 9.

Tel 01-7008000

Informed Consent Form – Study 1

Study 1: “Assessing the critical reasoning skills of students within DCU”
The purpose of this study is to assess DCU student’s ability to express their views on various topics/memories.
Principal investigator: Janine Bosak, DCU Business School

Study 1 will involve a writing task lasting no longer than 15 minutes.

Participant – please complete the following (Circle Yes or No for each question)

<i>I have read the Plain Language Statement (or had it read to me)</i>	<i>Yes/ No</i>
<i>I understand the information provided</i>	<i>Yes/ No</i>
<i>I have had an opportunity to ask questions and discuss this study</i>	<i>Yes/ No</i>
<i>I have received satisfactory answers to all my questions</i>	<i>Yes/ No</i>
<i>I understand that I may withdraw from the Research Study at any point.</i>	<i>Yes/ No</i>

Note: All data collected will be stored securely for the duration of the research. All the data collected is private and confidential. Data will not be disseminated to any other individuals or parties outside of the study. The anonymity of participants will be respected at all times. No data will be collected which would permit the subsequent identification of any participant. Data will be destroyed when it deemed no longer of use to the researchers as compliant with the Data Protection Act 2003.

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____
Name in Block Capitals: _____
Witness: _____
Date: _____

Informed Consent Form – Study 2

Study 2: “Perceptions of advertising”
The purpose of this study is to investigate how personality traits influence a person’s evaluation of a newspaper article.
Principal investigator: Brian Harman, DCU Business School Email: brian.harman2@mail.dcu.ie

Study 2 will involve participants viewing a newspaper article and rating it in terms of its persuasiveness. Participants will also be asked to complete two personality questionnaires. The study will last no longer than 20 minutes.

Participant – please complete the following (Circle Yes or No for each question)

<i>I have read the Plain Language Statement (or had it read to me)</i>	<i>Yes/No</i>
<i>I understand the information provided</i>	<i>Yes/No</i>
<i>I have had an opportunity to ask questions and discuss this study</i>	<i>Yes/No</i>
<i>I have received satisfactory answers to all my questions</i>	<i>Yes/No</i>
<i>I understand that I may withdraw from the Research Study at any point.</i>	<i>Yes/No</i>

Note: All data collected will be stored securely for the duration of the research. All the data collected is private and confidential. Data will not be disseminated to any other individuals or parties outside of the study. The anonymity of participants will be respected at all times. No data will be collected which would permit the subsequent identification of any participant. Data will be destroyed when it deemed no longer of use to the researchers as compliant with the Data Protection Act 2003.

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project.

Participants Signature: _____
Name in Block Capitals: _____
Witness: _____
Date: _____

Sample Introduction Sheet

Dear Participant,

We are kindly inviting you to participate in 2 separate and unrelated studies being undertaken within DCU Business School. In the interests of efficiency we propose that both studies be run during one class.

Study 1: Life experiences

Study 1 entitled “Life experiences” investigates students’ ability to recall and describe their life experiences.

Study 2: Perceptions of advertising

Study 2 entitled “Perceptions of advertising” looks at individual differences in perceptions to advertising.

You are asked to **read and answer all questions carefully**. Please answer all questions based on your own personal opinion. Confidentiality is guaranteed in both studies. All completed questionnaires are anonymous. Your participation is voluntary and is much appreciated. Your involvement or non-involvement in these studies will not affect your ongoing assessment/grades or your relationship with DCU in any way.

Thank you in advance for your time and effort. We greatly appreciate your help. If you have any questions, you may contact Brian Harman at the following email address: brian.harman2@mail.dcu.ie. In addition, if participants are concerned and wish to contact an independent person, please contact: The Secretary, DCU Ethics Committee, c/o Office of the Vice-President of Research, DCU. Tel: 01-7008000

Yours faithfully,

Brian Harman
Dr. Janine Bosak

Brian Harman
PhD student
DCU Business School
Email: brian.harman2@mail.dcu.ie

Dr. Janine Bosak
Lecturer
DCU Business School

Appendix B: Tables for Study 1

Procedural priming

Table 7.1

Correlation Matrix for Focal Variables (procedural priming)

	1	2	3	4	5	6	7	8	9
Advert persuasiveness	1								
Advert appeal	.865**	1							
Advert evaluation	.962**	.969**	1						
Hotel attractiveness	.702**	.746**	.751**	1					
Willingness to pay (€)	.520**	.562**	.562**	.614**	1				
Willingness to volunteer	-.013	.004	-.004	.043	-.217*	1			
Minutes volunteered	-.115	-.059	-.088	-.023	-.035	.462**	1		
Positive thoughts	.447**	.489**	.486**	.362**	.314**	.065	-.001	1	
Negative thoughts	.475**	-.586**	-.552**	-.488**	-.389**	.044	.181*	-.487**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Procedural priming

Table 7.2

Means (SDs) for Perceptual Variables as a Function of Priming

	Priming Condition						Total	
	Counterarguing		Control		Bolstering			
Advert persuasiveness								
Igloo Hotel	6.00	(1.88)	5.50	(2.42)	7.16	(1.67)	6.24	(2.06)
Scottish Hotel	3.94	(2.84)	3.94	(1.89)	3.80	(1.67)	3.89	(1.76)
Total	5.15	(2.11)	4.68	(2.27)	5.44	(2.37)	5.11	(2.25)
Advert appeal								
Igloo Hotel	6.70	(1.96)	6.44	(2.42)	7.53	(1.46)	6.90	(1.98)
Scottish Hotel	3.44	(1.75)	3.72	(1.99)	3.45	(1.84)	3.54	(1.84)
Total	5.36	(2.46)	5.00	(2.57)	5.44	(2.64)	5.28	(2.54)
Advert evaluation								
Igloo Hotel	6.35	(1.85)	5.96	(2.24)	7.34	(1.47)	6.57	(1.91)
Scottish Hotel	3.68	(1.70)	3.83	(1.90)	3.62	(1.63)	3.71	(1.71)
Total	5.25	(2.21)	4.84	(2.30)	5.43	(2.43)	5.19	(2.30)
Hotel attractiveness								
Igloo Hotel	6.65	(1.89)	6.13	(2.12)	6.89	(1.23)	6.59	(2.06)
Scottish Hotel	3.81	(2.34)	3.56	(1.38)	3.20	(1.67)	3.50	(1.80)
Total	5.49	(2.50)	4.76	(2.17)	5.00	(2.69)	5.10	(2.47)

Procedural priming

Table 7.3

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming Condition						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	74.65	(45.81)	71.03	(55.68)	61.77	(30.79)	69.22	(44.95)
Willingness to volunteer	96%		95%		93%		95%	
Minutes volunteered	50.50	(29.57)	49.67	(22.43)	38.08	(20.21)	45.87	(24.95)

Table 7.4

Means (SDs) for Cognitive Variables as a Function of Priming

	Priming Condition						Total	
	Counterarguing		Control		Bolstering			
Positive thoughts	1.72	(1.76)	1.56	(1.65)	1.67	(1.64)	1.65	(1.67)
Negative thoughts	2.03	(1.84)	2.15	(1.74)	1.85	(1.72)	2.00	(1.76)

Procedural priming

Table 7.5

Logistical Regression Predicting Willingness to Volunteer for Future Studies (procedural priming)

	B	S.E	Wald	df	<i>p</i>	Odds Ratio	95% C.I. for Odds Ratio	
							<u>Lower</u>	<u>Upper</u>
Control			.01	2	.95			
Bolstering	-.39	1.26	.01	1	.76	.68	.06	7.99
Counterarguing	-.23	1.28	.03	1	.86	.80	.06	9.83
Negative Mood	-1.05	.67	2.42	1	.12	.35	.9	1.31
Positive Mood	-.40	.67	.36	1	.55	.67	.180	2.48
Constant	7.29	3.29	4.90	1	.03	1471.44		

Table 7.6*Results of Moderated Regression Analyses for Dependent Variables (Avoidance Motivation)*

Predictor	<u>Persuasiveness</u>		<u>Appeal</u>		<u>Advert evaluation</u>		<u>Hotel attractiveness</u>		<u>Willingness to pay</u>		<u>Willingness to volunteer</u>		<u>Number of minutes</u>		<u>Positive thoughts</u>		<u>Negative thoughts</u>	
	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.01		.01		.01		.04		.01		.02		.01		.01		.00	
Negative Mood		.18		.35		.23		.08		5.18		-.05		.41		-.21		.04
Positive Mood		.30		.34		.31		.72*		6.19		-.01		3.63		.12		.11
Step 2	.26		.44		.38		.42		.39		.04		.04		.11		.23	
Negative Mood		.19		.27		.21		.16		2.96		-.04		-.04		-.15		.05
Positive Mood		.22		.26		.20		.65*		5.42		-.01		3.80		.11		.18
Advert		2.27**		.35**		2.81**		3.09		55.40**		-.08		-6.72		1.00**		-1.69**
Priming		-.23		.37		-.25		.11		.97		.00		8.06		-.02		.24
BIS		-.16		.59		-.01		-1.31*		-3.21		-.03		4.89		-.66		-.12
Step 3	.00		.00		.00		.00		.01		.00		.00		.00		.00	
Negative Mood		.18		.27		.21		.16		2.96		-.04		-.015		-.15		.05
Positive Mood		.19		.06		.18		.62*		4.48		-.01		3.85		.10		.16
Advert		2.26**		.36**		2.80**		3.07		54.61**		-.08*		-6.70		1.00**		-1.70**
Priming		-.22		.38		-.25		.11		1.10		.00		8.08		-.02		.24
BIS		-.43		.74		-.20		-1.55*		-12.98		-.01		5.90		-.72 ^t		-.26
Prime*BIS		.75		1.23		.54		.66		26.45		-.05		-2.24		.17		.39

^t $p \leq .01$ * $p \leq .05$ ** $p \leq .005$

Appendix C: Tables for Study 2

Procedural priming

Table 7.7

Correlation Matrix for Focal Variables (procedural priming)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Article persuasiveness	1												
Article appeal	.576**	1											
Article evaluation	.889**	.886**	1										
Web-tax attractiveness	.496**	.647**	.642**	1									
Attitude certainty	-.186**	-.274**	-.258**	-.266**	1								
Perceived MI	-4.09**	-.444**	-.484**	-.473**	.278**	1							
Willingness to pay (€)	.125	.217**	.189*	.300**	-.025	-.095	1						
Willingness to sign petition	.399**	.609**	.566**	.688**	-.151*	-.254**	.152	1					
Willingness to volunteer	.148*	.018	.096	.077	.012	-.041	.045	.081	1				
Minutes volunteered	.063	-.026	.025	.034	.037	.004	.054	-.008	.691**	1			
Positive thoughts	-.206	.104	-.056	.052	-.053	.110	-.059	.090	.009	.140	1		
Negative thoughts	-.068	-.066	-.075	.003	.006	.054	-.103	-.042	-.057	-.025	-.127	1	
PK thoughts	-.063	-.195	-.141	-.171	.165	.300**	-.024	-.188	-.096	-.007	.094	.140	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 7.8*Means (SDs) for Perceptual Variables as a Function of Priming*

	Counterarguing		Control		Bolstering		Total	
Article persuasiveness								
Low MI article	2.48	(1.35)	2.48	(1.52)	2.92	(1.63)	2.6	(1.50)
High MI article	2.09	(1.02)	2.88	(1.51)	2.86	(1.65)	2.68	(1.47)
Total	2.31	(1.23)	2.69	(1.52)	2.89	(1.62)	2.64	(1.48)
Article appeal								
Low MI article	2.45	(1.59)	2.21	(1.56)	2.48	(1.61)	2.35	(1.57)
High MI article	1.82	(1.18)	2.42	(1.46)	2.43	(1.54)	2.27	(1.42)
Total	2.18	(1.45)	2.32	(1.50)	2.46	(1.56)	2.32	(1.50)
Article evaluation								
Low MI article	2.47	(1.40)	2.36	(1.40)	2.7	(1.46)	2.48	(1.41)
High MI article	1.95	(0.90)	2.65	(1.29)	2.64	(1.25)	2.48	(1.22)
Total	2.24	(1.23)	2.52	(1.34)	2.67	(1.35)	2.48	(1.32)
Web-tax attractiveness								
Low MI article	3.18	(1.95)	2.78	(1.52)	3.48	(1.84)	3.09	(1.75)
High MI article	2.93	(1.60)	3.08	(1.81)	3.36	(1.72)	3.11	(1.73)
Total	3.08	(1.80)	2.94	(1.69)	3.43	(1.77)	3.1	(1.74)
Attitude certainty								
Low MI article	5.93	(2.63)	5.74	(2.82)	6.04	(2.51)	5.88	(2.65)
High MI article	7.05	(2.19)	6.69	(2.26)	5.81	(2.40)	6.57	(2.30)
Total	6.41	(2.49)	6.26	(2.55)	5.93	(2.43)	6.22	(2.50)
Perceived MI								
Low MI article	4.44	(1.11)	4.54	(1.10)	4.12	(1.08)	4.39	(1.10)
High MI article	4.73	(1.03)	4.55	(1.30)	4.52	(1.40)	4.59	(1.25)
Total	4.56	(1.07)	4.54	(1.21)	4.3	(1.24)	4.49	(1.18)

Procedural priming

Table 7.9

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	14.26	(13.26)	21.42	(22.98)	32.31	(28.78)	22.17	(23.26)
Willingness to volunteer	61%		49%		65%		56%	
Minutes volunteered	11.55	(14.84)	12.87	(18.01)	14.39	(16.29)	12.88	(16.72)
Willingness to sign petition	1.55	(1.01)	1.70	(1.31)	1.54	(1.00)	1.62	(1.15)

Table 7.10

Means (SDs) for Cognitive Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Positive thoughts	1.19	(0.40)	1.19	(0.40)	1.13	(0.34)	1.17	(0.38)
Negative thoughts	1.15	(0.43)	1.12	(0.37)	1.06	(0.24)	1.11	(0.36)
PK thoughts	2.25	(1.36)	1.75	(0.68)	1.45	(0.82)	1.82	(1.00)

Procedural priming

Table 7.11

Logistical Regression Predicting Willingness to Volunteer for Future Studies (procedural priming)

	B	S.E	Wald	df	<i>p</i>	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Control			4.22	2	.12			
Bolstering	.69	.38	3.24	1	.07	1.99	.94	4.21
Counterarguing	.53	.353	2.27	1	.13	1.70	.85	3.40
Negative Mood	.10	.22	.23	1	.63	1.11	.73	1.69
Positive Mood	.24	.15	2.56	1	.11	1.27	.94	1.71
Constant	-.77	.34	5.08	1	.02	.46		

Procedural priming

Table 7.12

Results of Moderated Regression Analyses for Dependent Variables (Approach Motivation)

Predictor	<u>Article evaluation</u>		<u>Webtax attractiveness</u>		<u>Attitude certainty</u>		<u>Willingness to pay</u>		<u>Willingness to sign petition</u>		<u>Willingness to volunteer</u>		<u>Number of minutes</u>		<u>Perceived MI</u>		<u>Positive thoughts</u>		<u>Negative thoughts</u>		<u>PK Thoughts</u>		
	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	
Step 1	.01		.01		.00		.00		.01		.07		.02		.02		.07		.00		.00		
Negative Mood		-.13		-.21		.23		-.93		-.17		.04		.27		-.07		-.09		-.01		.06	
Positive Mood		-.03		.11		-.14		.47		.10		.07*		1.69		.14		-.02		.01		.01	-.00
Step 2	.02		.01		.02		.08		.00		.01		.02		.03		.08		.02				
Negative Mood		-.09		-.16		.21		.72		-.19		.05		.82		-.12		-.11		-.02		.07	
Positive Mood		-.07		.08		-.04		-.52		.10		.06		1.24		.18		-.02		.01		.03	
Article		.06		.03		.69t		-5.54		.12		.06		1.35		.11		.13		.08		.08	
Priming		.26		.39		-.23		13.44		-.16		.11		2.14		-.32		-.09		-.08		.08	
BAS		.27		.05		.02		-2.41		.05		.02		5.40t		-.24		.19		.01		.13	
Step 3	.00		.01		.03		.03		.00		.01		.02		.00		.05		.00		.00		
Negative Mood		-.09		-.15		.17		1.16		-.18		.05		1.10		-.12		-.13		-.02		.07	
Positive Mood		-.07		.07		-.02		-.48		.09		.06		1.10		.18		.00		.01		-.03	
Article		.06		.04		.67t		-5.01		.13		.05		1.39		.11		.17t		.08		.08	
Priming		.28		.42		-.34		13.47		-.15		.10		2.11		-.33		-.04		-.07		.06	
BAS		.18		-.16		.65		-10.06		-.03		.08		3.27		-.18		.24		-.03		.20	
Prime*BAS		.23		.55		-1.65*		18.53		.22		-.16		13.30		-.14		-1.47t		.08		-.14	

t p ≤ .01 *p ≤ .05 **p ≤ .005

Appendix D: Tables for Study 3

Procedural Priming

Table 7.13

Correlation Matrix for Focal Variables (procedural priming)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Article persuasiveness	1												
Article appeal	.659**	1											
Article evaluation	.907**	.914**	1										
Pension attractiveness	.542**	.602**	.630**	1									
Attitude certainty	.116	.182*	.163*	.179*	1								
Perceived MI	-.546**	-.593**	-.626**	-.602**	-.248**	1							
Willingness to pay (€)	.250**	.246**	.267**	.382**	.153	-.337**	1						
Willingness to sign petition	.636**	.681**	.724**	.778**	.233**	-.588**	.356**	1					
Willingness to volunteer	.013	-.039	-.016	.067	.182*	-.005	.074	.024	1				
Minutes volunteered	-.033	-.049	.009	-.002	.191*	.002	.033	.069	.014	1			
Positive thoughts	.244*	.168	.223*	.147	.115	-.192*	-.102	.196*	-.053	-.092	1		
Negative thoughts	-.349**	-.438**	-.432**	-.404**	-.079	.430**	-.080	-.374**	.123	.036	-.190	1	
PK thoughts	-.156	-.320**	-.261**	-.137	-.023	.204*	.045	-.140	.098	-.070	.033	.280**	1

** Correlation is significant at the 0.01 level (2 tailed).

* Correlation is significant at the .005 level (2 tailed).

Table 7.14*Means (SDs) for Perceptual Variables as a Function of Priming*

	Priming Condition						Total	
	Counterarguing		Control		Bolstering			
Article persuasiveness								
Low MI article	3.17	(1.90)	3.28	(1.62)	3.88	(1.90)	3.39	(1.80)
High MI article	3.50	(1.82)	3.28	(1.72)	3.39	(1.61)	3.38	(1.70)
Total	3.32	(1.85)	3.28	(1.65)	3.63	(1.75)	3.39	(1.74)
Article appeal								
Low MI article	3.17	(1.79)	3.64	(1.52)	4.65	(1.87)	3.73	(1.79)
High MI article	3.40	(2.09)	2.85	(1.43)	3.28	(1.93)	3.14	(1.79)
Total	3.27	(1.91)	3.24	(1.52)	3.94	(2.00)	3.44	(1.80)
Article evaluation								
Low MI article	3.17	(1.61)	3.46	(1.31)	4.26	(1.72)	3.56	(1.57)
High MI article	3.45	(1.90)	3.06	(1.46)	3.33	(1.65)	3.26	(1.65)
Total	3.30	(1.73)	3.26	(1.39)	3.79	(1.73)	3.41	(1.61)
Pension attractiveness								
Low MI article	5.47	(2.54)	6.11	(1.89)	6.89	(1.59)	6.09	(2.12)
High MI article	5.82	(1.79)	5.47	(1.65)	6.09	(1.88)	5.76	(1.75)
Total	5.63	(2.20)	5.79	(1.78)	6.48	(1.77)	5.92	(1.95)
Attitude certainty								
Low MI article	5.83	(2.12)	6.56	(1.98)	6.59	(2.06)	6.30	(2.05)
High MI article	6.15	(1.98)	6.62	(1.98)	6.39	(2.20)	6.41	(2.02)
Total	5.98	(2.04)	6.59	(1.96)	6.49	(2.11)	6.35	(2.03)
Perceived MI								
Low MI article	4.31	(1.47)	3.91	(1.21)	3.78	(1.21)	4.02	(1.31)
High MI article	4.30	(1.44)	4.71	(1.12)	4.65	(0.79)	4.56	(1.15)
Total	4.30	(1.44)	4.31	(1.22)	4.23	(1.09)	4.29	(1.26)

Procedural Priming

Table 7.15

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	0.66	(0.39)	0.66	(0.39)	0.87	(0.26)	0.71	(0.37)
Willingness to sign petition	3.30	(2.17)	3.43	(1.96)	4.09	(2.33)	3.56	(2.15)
Willingness to volunteer	74%		80%		77%		77%	
Minutes volunteered	1.48	(0.28)	1.60	(0.30)	1.52	(0.23)	1.54	(0.28)
Log transformation used for willingness to pay (€)								
Log transformation used for no of minutes								

Table 7.16

Means (SDs) for Cognitive Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Positive thoughts	1.76	(0.83)	1.53	(0.84)	1.64	(0.73)	1.65	(0.80)
Negative thoughts	1.94	(1.04)	2.05	(0.84)	1.93	(1.01)	1.98	(0.95)
PK thoughts	1.97	(1.08)	2.17	(0.90)	2.04	(1.27)	2.07	(1.05)

Procedural Priming

Table 7.17

Logistical Regression Predicting Willingness to Volunteer for Future Studies (procedural priming)

	B	S.E	Wald	df	p	Odds Ratio	95% C.I. for	
							Lower	Upper
Control			.45	2	.80			
Bolstering	-.17	0.48	.12	1	.73	.85	.33	2.18
Counterarguing	-.32	0.48	.45	1	.50	.73	.28	1.85
Mood	.05	0.09	.27	1	.60	1.05	.88	1.26
Constant	1.29	0.36	12.68	1	.00	3.64		

Procedural Priming

Table 7.18

Results of Moderated Regression Analyses for Dependent Variables (Approach Motivation)

Predictor	<u>Article evaluation</u>		<u>Pension attractiveness</u>		<u>Willingness to pay</u>		<u>Attitude Certainty</u>	<u>Willingness to sign petition</u>		<u>Willingness to volunteer</u>		<u>Number of minutes</u>		<u>Perceived MI</u>		<u>Positive thoughts</u>		<u>Negative thoughts</u>		<u>PK thoughts</u>		
	ΔR2	B	ΔR2	B	ΔR2	B		ΔR2	B	ΔR2	B	ΔR2	B	ΔR2	B	ΔR2	B	ΔR2	B	ΔR2	B	
Step 1	.09		.03		.00		.04		.04		.00		.03		.11		.04		.09		.11	
Mood		.22**		.15t		-.00	.19*		.20		.00		-.02t		-.19**		.08t		-.12**		-.19**	
Step 2	.03		.04		.13		.05		.04		.02		.01		.07		.00		.01		.07	
Mood		.22		.15t		-.01	.21		.20*		.00		-.02t		-.19**		.09t		-.12**		-.19**	
Article		-.38		-.44		.047	-.06		-.66*		.11		-.02		.62**		-.06		.11		.62	
Priming		.47		.62t		.27**	.18		.64		-.01		-.04		-.14		.02		-.14		-.14	
BAS		-.15		-.21		-1.82t	1.09*		-.08		.01		.05		.20		-.06		.12		.20	
Step 3	.00		.00		.04		.01		.00		.01		.00		.00		.00		.00		.00	
Mood		.22**		.15t		-.01	.22*		.20*		.00		-.02t		-.19**		.09t		-.12**		-.20**	
Article		-.38		-.44		.06	-.04		-.65t		.12		-.02		.62**		-.06		-.12		.62**	
Priming		.47		.62t		.28**	.16		.64		-.01		-.04		-.14		.02		-.14		-.14	
BAS		-.25		-.13		-.05	1.48*		.07		.09		.04		.27		-.08		-.00		.27	
Prime*BAS		.30**		-.23		-.42*	-1.11		-.42		-.23		.04		-.21		.08		.32		-.21	

t p ≤ .01 *p ≤ .05 **p ≤ .005**

Procedural Priming

Table 7.19

Results of Moderated Regression Analyses for Dependent Variables (Persuasion Knowledge)

Predictor	<u>Article evaluation</u>		<u>Pension attractiveness</u>		<u>Attitude certainty</u>		<u>Willingness to pay</u>		<u>Willingness to sign petition</u>		<u>Willingness to volunteer</u>		<u>Number of minutes</u>		<u>Perceived MI</u>		<u>Positive thoughts</u>		<u>Negative thoughts</u>		<u>PK thoughts</u>	
	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.06		.03		.06		.00		.03		.00		.02		.10		.04		.10		.02	
Mood		.19**		.16*		.24**		.00		.18*		.01		-.02		-.19**		.09t		-.13**		-.07
Step 2	.00		.03		.01		.07		.02		.02		.02		.06		.00		.00		.03	
Mood		.19**		.16*		.24**		.00		.18*		.01		-.02t		-.19**		.08t		-.13**		-.07
Article		-.16		-.26		.02		.02		-.46*		.12		-.03		.57**		-.01		-.04		.40*
Priming		.17		.61t		-.115		.21*		.45		-.01		-.07		-.07		.09		-.08		.08
PK		.42		-.83				-.17		.26		.00		-.08		-1.24t		-.29		-.04		-.17
Step 3	.00		.00		.02		.00		.00		.00		.03		.00		.01		.01		.00	
Mood		.19**		.16*		.24**		.00		.18*		.01		-.02		-.19**		.09t		-.14**		-.07
Article		-.16		-.26		.03		.02		-.46		.12		-.03		.57**		-.00		-.05		-.40*
Priming		.16		.61t		-.10		.21*		.45		-.01		-.07		-.07		.09		-.08		.08
PK		.78		-.44		-2.83*		-.17		.41		-.01		-.37		-1.18		-.89		.48		-.22
Prime* PK		-.86		-.88		4.25*		-.00		-.34		.02		.61t		-.15		1.30		-1.08		.11

t p ≤ .01 *p ≤ .05 **p ≤ .005

Episodic Priming

Table 7.20

Correlation Matrix for Focal Variables (episodic priming)

	1	2	3	4	5	6	7	8	9	10
Persuasiveness	1									
Appeal	.663**	1								
Article evaluation	.915**	.909**	1							
Pension attractiveness	.515**	.572**	.596**	1						
Attitude certainty	.059	.196**	.139	.168*	1					
Perception of PK	-.370**	-.373**	-.407**	-.348**	-.037	1				
Willingness to pay	.328**	.357**	.373**	.529**	-.065	-.112	1			
Willingness to sign petition	.615**	.670**	.704**	.783**	.195*	-.392**	.445**	1		
Willingness to volunteer	.066	.132	.108	.135	.174*	.011	-.097	.134	1	
Minutes volunteered	-.122	-.061	-.101	-.086	.158	.317**	-.016	-.083	.431	1

** Correlation is significant at the 0.01 level (2 tailed).

* Correlation is significant at the .005 level (2 tailed).

Table 7.21*Means (SDs) for Perceptual Variables as a Function of Priming*

	Priming Condition							
	Counterarguing		Control		Bolstering		Total	
Article persuasiveness								
Low MI article	3.88	(1.75)	3.28	(1.61)	3.72	(1.41)	3.59	(1.62)
High MI article	3.68	(1.65)	3.62	(1.20)	3.11	(1.41)	3.50	(1.43)
Total	3.78	(1.69)	3.43	(1.44)	3.41	(1.42)	3.55	(1.52)
Article appeal								
Low MI article	3.62	(1.55)	3.22	(1.41)	3.72	(1.64)	3.47	(1.51)
High MI article	3.40	(1.80)	3.23	(1.56)	2.95	(1.27)	3.21	(1.57)
Total	3.51	(1.66)	3.22	(1.46)	3.32	(1.49)	3.35	(1.54)
Article evaluation								
Low MI article	3.75	(1.53)	3.25	(1.37)	3.72	(1.37)	3.53	(1.43)
High MI article	3.54	(1.63)	3.42	(1.28)	3.03	(1.24)	3.36	(1.40)
Total	3.65	(1.57)	3.33	(1.32)	3.36	(1.34)	3.45	(1.42)
Pension attractiveness								
Low MI article	6.01	(2.12)	5.88	(1.69)	5.84	(1.62)	5.92	(1.81)
High MI article	5.98	(2.03)	5.79	(2.01)	5.84	(1.89)	5.87	(1.95)
Total	5.99	(2.06)	5.84	(1.82)	5.84	(1.73)	5.89	(1.87)
Attitude certainty								
Low MI article	6.50	(1.61)	6.22	(1.91)	6.11	(1.60)	6.29	(1.73)
High MI article	6.16	(2.30)	6.31	(2.28)	6.11	(2.02)	6.20	(2.19)
Total	6.33	(1.97)	6.26	(2.06)	6.11	(1.81)	6.25	(1.96)
Perceived MI								
Low MI article	4.17	(0.99)	4.10	(1.20)	4.09	(1.44)	4.12	(1.18)
High MI article	4.17	(1.09)	4.46	(1.19)	4.35	(0.97)	4.33	(1.09)
Total	4.18	(1.03)	4.26	(1.20)	4.22	(1.22)	4.22	(1.14)

Episodic Priming

Table 7.22

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming							
	Counterarguing		Control		Bolstering		Total	
Willingness to pay (€)	0.71	(0.35)	0.76	(0.31)	0.74	(0.27)	(0.74)	(0.32)
Willingness to sign petition	3.55	(2.14)	3.48	(2.04)	3.65	(1.86)	3.55	(2.02)
Willingness to volunteer	80%		81%		80%		80%	
Minutes volunteered	1.49	(0.43)	1.45	(0.33)	1.40	(0.25)	1.45	(0.36)

Log transformation used for “willingness to pay” and “minutes volunteered” variables

Appendix E: Tables for Study 4

Episodic Priming

Table 7.23

Correlation Matrix for Focal Variables (episodic priming)

	1	2	3	4	5	6	7	8	9
Advert persuasiveness	1								
Advert appeal	.709**	1							
Advert evaluation	.914**	.051	1						
Hotel attractiveness	.574**	.621**	.000	1					
Willingness to pay (€)	.335 ^c	.373**	-.004	.518**	1				
Willingness to volunteer	.114	.055	-.102	.183**	.117	1			
Minutes volunteered	.116	.075	-.064	.123*	.158*	.638**	1		
Positive thoughts	.296**	.379**	.010	.255**	.236**	.119	.143	1	
Negative thoughts	-.239**	-.267**	-.012	-.100	-.021	-.016	-.017	-.270**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the .005 level (2 tailed).

Episodic Priming

Table 7.24

Means (SDs) for Perceptual Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Advert persuasiveness								
Igloo hotel	3.72	(1.53)	4.13	(1.47)	4.39	(1.46)	4.10	(1.49)
Scottish hotel	3.17	(1.40)	3.54	(1.27)	3.59	(1.38)	3.41	(1.36)
Total	3.38	(1.47)	3.88	(1.41)	3.97	(1.47)	3.74	(1.46)
Advert appeal								
Igloo hotel	4.24	(1.86)	4.52	(1.87)	4.52	(1.87)	4.37	(1.82)
Scottish hotel	2.96	(1.30)	3.46	(1.20)	3.51	(1.56)	3.28	(1.37)
Total	3.44	(1.65)	3.98	(1.61)	4.00	(1.78)	3.80	(1.69)
Advert evaluation								
Igloo hotel	3.98	(1.64)	4.24	(1.43)	4.45	(1.56)	4.24	(1.52)
Scottish hotel	3.06	(1.24)	3.50	(1.13)	3.34	(1.39)	3.34	(1.27)
Total	3.40	(1.47)	3.93	(1.36)	3.98	(1.51)	3.77	(1.46)
Hotel attractiveness								
Igloo hotel	4.83	(1.75)	4.85	(1.52)	4.52	(1.97)	4.75	(1.72)
Scottish hotel	2.67	(1.23)	2.97	(1.20)	3.51	(1.68)	3.02	(1.41)
Total	3.48	(1.78)	4.06	(1.67)	4.00	(1.88)	3.83	(1.78)

Episodic Priming

Table 7.25

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	62.24	(33.24)	78.97	(43.27)	72.77	(39.68)	71.57	(39.52)
Willingness to volunteer	73%		78%		73%		75%	
Minutes volunteered	14.44	(12.98)	17.32	(15.87)	18.10	(17.59)	16.61	(15.57)

Table 7.26

Means (SDs) for Cognitive Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Positive thoughts	1.80	(0.87)	2.17	(1.06)	2.26	(1.25)	2.07	(1.07)
Negative thoughts	1.96	(1.30)	1.90	(1.39)	2.15	(0.97)	1.99	(1.24)

Episodic Priming

Table 7.27

Logistical Regression Predicting Willingness to Volunteer for Future Studies (episodic priming)

	B	S.E.	Wald	df	<i>p</i>	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Counterarguing			.90	2	0.64			
Control	.22	0.36	.37	1	0.55	1.24	.61	2.54
Bolstering	-.12	0.36	.10	1	0.75	.89	.44	1.81
Negative Mood	.24	0.23	1.17	1	0.28	1.28	.82	1.99
Positive Mood	.28	0.20	2.02	1	0.16	1.32	.90	1.94
Constant	-.40	0.84	.23	1	0.63	.67		

Episodic Priming

Table 7.28

Results of Moderated Regression Analyses for Dependent Variables (Avoidance Motivation)

Predictor	<u>Persuasiveness</u>		<u>Appeal</u>		<u>Advert evaluation</u>		<u>Hotel attractiveness</u>		<u>Willingness to pay</u>		<u>Number of minutes</u>		<u>Positive thoughts</u>		<u>Negative thoughts</u>	
	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B
Step 1	.039		.04		.05		.02		.00		.01		.04		.01	
Negative Mood		-.00		-.08		-.04		-.13		1.76		.66		-.02		.06
Positive Mood		.37**		.42**		.40**		.27t		3.10		2.07		.28*		-.13
Step 2	.080		.12		.11		.24		.35		.02		.03		.01	
Negative Mood		-.07		-.05		-.06		.08		3.22		-.73		-.05		.05
Positive Mood		.37**		.40**		.38**		.26t		4.49		2.17		.27*		-.15
Advert		.63**		1.08**		.86**		1.67**		47.18**		-1.49		.12		-.26
Priming		-.42*		-.35		-.39*		-.34		-8.26		-3.07		-.36t		-.14
BIS		.20		-.14		.03		-.10		2.88		4.15		-.08		-.02
Step 3	.00		.00		.00		.00		.01		.00		.00		.03	
Negative Mood		-.07		-.05		-.06		-.07		2.97		-.73		-.05		-.01
Positive Mood		.37**		.40**		.38**		.26t		4.40		2.16		.28*		-.17
Advert		.63**		1.08**		.85**		1.67**		47.29**		-1.49		.12**		-.26
Priming		-.41*		-.36		-.38*		-.35		-7.36		-3.10		-.35t		-.17
BIS		.09*		-.08		.01		.03		-3.76		4.47		-.15		-.47
Prime*BIS		.33*		-.21*		.06		-.39		18.52		-.95		.20		1.06*

t p ≤ .01 * p ≤ .05 ** p ≤ .005

Appendix F: Tables for Study 5 & Study 6

Tables for Study 5

Procedural Priming

Table 7.29

Correlation Matrix for Focal Variables (procedural priming)

	1	2	3	4	5	6
Advert persuasiveness	1					
Advert appeal	.826**	1				
Advert evaluation						
Hotel attractiveness	.718**	.866**	1			
Willingness to pay (€)	.557**	.742**	.685**	1		
Willingness to volunteer	-.013	.015	.025	-.108	1	
Minutes volunteered	.045	.034	.094	.027	.195*	1

** . Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the .005 level (2 tailed).

Procedural Priming

Table 7.30

Means (SDs) for Perceptual Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Advert persuasiveness	3.93	(1.84)	4.10	(1.79)	3.29	(1.88)	3.79	(1.85)
Advert appeal	3.23	(1.81)	4.03	(1.99)	3.38	(1.98)	3.59	(1.95)
Advert evaluation	3.58	(1.69)	4.06	(1.84)	3.33	(1.85)	3.69	(1.81)
Food attractiveness	3.17	(2.02)	3.78	(1.94)	3.12	(2.01)	3.38	(1.99)

Table 7.31

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	1.33	(1.61)	2.09	(1.61)	1.39	(1.44)	1.63	(1.58)
Willingness to volunteer	97%		90%		98%		95%	
Minutes volunteered	46.21	(19.35)	39.86	(17.30)	38.97	(15.11)	41.41	(17.34)

Tables for Study 6

Procedural Priming

Table 7.32

Correlation Matrix for Focal Variables (procedural priming)

	1	2	3	4	5	6	7
Advert persuasiveness	1						
Advert appeal	.822**	1					
Vacation spot attractiveness	.690**	.801**	1				
Like to visit	.795**	.775**	.754**				
Willingness to pay (€)	.544**	.444**	.382**	.552**	1		
Willingness to volunteer	.037	.055	.133	.054	.144	1	
Minutes volunteered	.112	.126	.128	.135	.218*	.203*	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the .005 level (2 tailed).

Procedural Priming

Table 7.33

Means (SDs) for Perceptual Variables as a Function of Priming

	Counterarguing		Priming Control		Bolstering		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Advert persuasiveness								
Igloo Hotel	5.40	(1.51)	4.47	(1.70)	4.75	(1.77)	4.69	(1.69)
Milwaukee	4.00	(1.49)	4.30	(1.88)	3.71	(1.66)	3.99	(1.69)
Total	4.47	(1.61)	4.40	(1.76)	4.06	(1.75)	4.30	(1.75)
Advert appeal								
Igloo Hotel	5.60	(1.58)	4.97	(1.76)	5.13	(1.86)	5.11	(1.75)
Milwaukee	4.30	(1.60)	4.63	(1.76)	3.97	(1.87)	4.28	(1.76)
Total	4.73	(1.66)	4.83	(1.76)	4.36	(1.93)	4.65	(1.79)
Ad evaluation								
Igloo Hotel	5.50	(1.53)	4.72	(1.64)	4.94	(1.80)	4.90	(1.66)
Milwaukee	4.15	(1.40)	4.46	(1.70)	3.84	(1.68)	4.13	(1.62)
Total	4.60	(1.55)	4.61	(1.66)	4.21	(1.78)	4.47	(1.68)
Vacation spot attractiveness								
Igloo Hotel	5.70	(1.16)	5.19	(1.72)	4.81	(1.83)	5.18	(1.67)
Milwaukee	4.60	(1.60)	4.85	(1.46)	3.87	(1.61)	4.40	(1.60)
Total	4.97	(1.54)	5.05	(1.61)	4.19	(1.73)	4.74	(1.67)
Like to visit								
Igloo Hotel	5.50	(1.51)	4.22	(1.96)	4.75	(1.77)	4.56	(1.88)
Milwaukee	3.65	(1.84)	4.33	(1.86)	3.52	(1.79)	3.83	(1.84)
Total	4.27	(1.93)	4.27	(1.90)	3.94	(1.86)	4.16	(1.89)

Procedural Priming

Table 7.34

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	152.38	(88.57)	184.03	(126.59)	163.36	(119.10)	170.44	(117.00)
Willingness to volunteer	86%		94%		83%		89%	
Minutes volunteered	42.11	(21.74)	34.41	(20.91)	37.44	(22.10)	37.03	(21.52)

Episodic Priming

Table 7.35

Correlation Matrix for Focal Variables (episodic priming)

	1	2	3	4	5	6	7
Advert persuasiveness	1						
Advert appeal	.824**	1					
Vacation spot attractiveness	.672**	.766**	1				
Like to visit	.670**	.726**	.872**	1			
Willingness to pay (€)	.492**	.546**	.530**	.588**	1		
Willingness to volunteer	.051	.046	.001	.019	-.008	1	
Minutes volunteered	.115	.071	.001	-.031	.041	-.037	1

** . Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the .005 level (2 tailed).

Episodic Priming

Table 7.36

Means (SDs) for Perceptual Variables as a Function of Priming

	Counterarguing		Priming				Total	
			Control		Bolstering			
Advert persuasiveness								
Igloo Hotel	3.84	(1.74)	4.46	(1.86)	4.43	(1.95)	4.34	(1.85)
Milwaukee	3.67	(1.46)	3.68	(1.87)	4.61	(1.19)	3.90	(1.64)
Total	3.75	(1.58)	4.10	(1.92)	4.53	(1.54)	4.10	(1.74)
Advert appeal								
Igloo Hotel	4.11	(1.94)	5.16	(1.70)	5.07	(1.82)	4.79	(1.84)
Milwaukee	4.05	(1.75)	3.82	(2.08)	4.22	(1.63)	3.99	(1.87)
Total	4.08	(1.82)	4.39	(2.02)	4.59	(1.74)	4.34	(1.89)
Ad evaluation								
Igloo Hotel	3.97	(1.78)	4.92	(1.70)	4.75	(1.80)	4.56	(1.77)
Milwaukee	3.86	(1.49)	3.75	(1.92)	4.62	(1.30)	3.94	(1.67)
Total	3.91	(1.62)	4.24	(1.90)	4.56	(1.52)	4.22	(1.74)
Vacation spot attractiveness								
Igloo Hotel	4.47	(1.95)	5.16	(1.84)	4.79	(1.72)	4.84	(1.84)
Milwaukee	3.67	(1.53)	3.65	(1.92)	4.22	(1.31)	3.79	(1.67)
Total	4.05	(1.77)	4.29	(2.02)	4.47	(1.50)	4.26	(1.82)
Like to visit								
Igloo Hotel	3.89	(1.99)	5.00	(1.87)	4.86	(2.07)	4.60	(1.99)
Milwaukee	3.14	(1.49)	3.47	(2.02)	4.22	(1.90)	3.56	(1.87)
Total	3.50	(1.77)	4.12	(2.08)	4.50	(1.97)	4.02	(1.99)

Episodic Priming

Table 7.37

Means (SDs) for Behavioural Variables as a Function of Priming

	Priming						Total	
	Counterarguing		Control		Bolstering			
Willingness to pay (€)	132.20	(127.01)	151.10	(105.95)	194.68	(122.22)	155.68	(118.08)
Willingness to volunteer	90%		97%		94%		94%	
Minutes volunteered	40.17	(18.51)	41.32	(23.14)	37.97	(20.29)	40.16	(21.08)

Appendix G: Sample Questionnaire

Perceptions of advertising

The purpose of this study is to investigate the effectiveness of advertising. An advert for a vacation location is included in the envelope. Please read and answer all questions in the following questionnaire carefully.

It is critical that you carefully read and answer ALL questions. Your full attention is required throughout this questionnaire to complete it properly. Thank you in advance.

I am interested in finding out about the thoughts that went through your mind as you read the information about the hotel. Please share any thoughts you had while you were reading the advert of the hotel. Please write your thoughts in the section below. Do not worry about spelling or grammar. Just make sure you express the main idea of each thought.

Please circle the appropriate number on the scales below

		Not at all persuasive Very persuasive 						
Q1	How persuasive did you find the advert?	1	2	3	4	5	6	7

		Not at all appealing Very appealing 						
Q2	How appealing did you find the advert?	1	2	3	4	5	6	7

		Not at all attractive Very attractive 						
Q3	How attractive was the hotel featured in the advert?	1	2	3	4	5	6	7

How much would you be willing to pay for a one night stay in this hotel?

€ _____

Please read each statement carefully. Then indicate the extent to which you agree or disagree with each of the statements by ticking the appropriate box. Please answer all questions.		Strongly agree	Agree	Disagree	Strongly disagree
Q1	If I think something unpleasant is going to happen I usually get pretty worked up				
Q2	I worry about making mistakes				
Q3	Criticism or scolding hurts me quite a bit				
Q4	I feel pretty worried or upset when I think or know somebody is angry at me				
Q5	Even if something bad is about to happen to me, I rarely experience fear or nervousness				
Q6	I feel worried when I think I have done poorly at something				
Q7	I have very few fears compared to my friends				
Q8	When I get something I want, I feel excited and energized				
Q9	When I'm doing well at something, I love to keep at it				
Q10	When good things happen to me, it affects me strongly				
Q11	It would excite me to win a contest				
Q12	When I see an opportunity for something I like, I get excited right away				
Q13	When I want something, I usually go all-out to get it				
Q14	I go out of my way to get things I want				
Q15	If I see a chance to get something I want, I move on it right away				
Q16	When I go after something I use a "no holds barred" approach				
Q17	I will often do things for no other reason than that they might be fun				
Q18	I crave excitement and new sensations				
Q19	I'm always willing to try something new if I think it will be fun				
Q20	I often act on the spur of the moment				

Please read each statement carefully. Then indicate to what extent each statement describes you by ticking the appropriate box. Please answer all questions.		Extremely unlike me	Unlike me	Like me	Extremely like me
Q1	When someone challenges my beliefs, I remind myself why my beliefs are important to me.				
Q2	When someone has a different perspective on an issue, I like to make a mental list of the reasons in support of my perspective.				
Q3	When someone gives me a point of view that conflicts with my attitudes, I like to think about why my views are right for me.				
Q4	When someone tries to change my attitude toward something, I try to think about things that support the attitude I already have.				
Q5	When confronted with an opposing viewpoint, I think it's good to think about my values and beliefs.				
Q6	When information contradicts my beliefs, I think of all the reasons in support of my beliefs.				
Q7	When someone challenges my beliefs, I enjoy disputing what they have to say.				
Q8	I take pleasure in arguing with those who have opinions that differ from my own.				
Q9	When someone gives me a point of view that conflicts with my own, I like to actively counterargue their point of view.				
Q10	When someone presents a view that differs from my own, I don't like to engage in a debate.				
Q11	I don't like to challenge people with views that differ from my own.				
Q12	When information challenges my beliefs, I don't like to actively counterargue it.				

Biographical Information

Age: _____ years old

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

<input type="checkbox"/>	Irish
<input type="checkbox"/>	Non Irish

<input type="checkbox"/>	1 st year student
<input type="checkbox"/>	2 nd year student
<input type="checkbox"/>	3 rd year student
<input type="checkbox"/>	4 th year student
<input type="checkbox"/>	Post grad

If non Irish, please specify: _____

Is English your first language?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

Study Programme: (tick one box)

<input type="checkbox"/>	Business Studies	<input type="checkbox"/>	Actuarial Mathematics
<input type="checkbox"/>	Economics, Politics & Law	<input type="checkbox"/>	Accounting & Finance
<input type="checkbox"/>	Mathematical Sciences	<input type="checkbox"/>	Aviation Management
<input type="checkbox"/>	Marketing Innovation & Tech	<input type="checkbox"/>	Manu. Eng & Business
<input type="checkbox"/>	European Business Studies	<input type="checkbox"/>	Intern. Business & Langs.
<input type="checkbox"/>	Other	<input type="checkbox"/>	

Would you be willing to participate in future research studies?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

If yes, please specify the amount of time you are willing to volunteer for future studies.

_____minutes

You are at the end of the questionnaire.

Thank you very much for your participation!!

Appendix H: Materials for Studies

Study 1 / Study 4 Highly Attractive Hotel Advert

Igloo Hotels of Switzerland:

Experience an Ancient Inuit Tradition and Spend a Night in a Cozy Igloo



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Study 1 / Study 4 Moderately Attractive Hotel Advert

Star Hotel in Scotland

Experience Scottish Charm at the Star Hotel



It's a fantastic experience to visit Edinburgh in Scotland. The Star Hotel, originally built in 1910, provides guests with a comfortable and relaxing ambience in the heart of Edinburgh. Our friendly staff are committed to making your stay an enjoyable one.

In the hotel, you can indulge in the comfort of our sauna. Alternatively, you can sample some mulled wine at the hotel bar and enjoy some authentic Scottish cuisine in our restaurant.

A stay at the Star hotel affords you the opportunity to immerse yourself in ancient Highland traditions while enjoying spectacular views of the majestic Scottish mountains. And what's more, our city centre location means you are close to all the local attractions!

Study 2 Materials

High Manipulative Webtax Article

BUSINESS REVIEW

no. 203.078 Investing in ideas since 1802 Since 1802

PROPOSING A WEBTAX FOR IRELAND



James McKenzie, Media Investor

HAVE YOUR SAY

I believe all Irish citizens who own a laptop, tablet or 3G phone should be compelled to pay a "webtax". The current situation where people can steal music and films online is unsustainable. Online piracy has eroded the profits margins within the media and entertainment industry while reducing the revenue returns due to the Irish exchequer. It is in the public's interest that everyone pays their fair share. Compared to other countries, Ireland is lagging behind in tackling cybercrime.

A recent in-house report produced by my shareholders and I provides a strong argument in support of the proposed webtax. According to our research, virtually all of the general public would support the introduction of a webtax in principle. This report has been submitted to government officials in order to lobby for the webtax proposal. For more information on the webtax proposal, readers can visit www.irishwebtax.org

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A recent independent report produced by leading academics (Hay et al. 2013) provides a strong argument in support of the proposed webtax. According to their research, 30% of the general public would support the introduction a web tax in principle. This report has been submitted to government officials in order for them to consider the webtax proposal. For more information on the webtax proposal, readers can visit www.irishwebtax.org

Study 3 Materials

Highly Manipulative Pension Article

BUSINESS REVIEW

no.203.078 Investing in ideas since 1802 - Since 1802

PROPOSING A MANDATORY PENSION

HAVE YOUR SAY



James McKenzie
Pension Fund Manager

I believe all employees over the age of 18 years should be compelled to pay into a pension fund. The current situation where people continually postpone joining a pension scheme is unsustainable. There is no denying that we have all been affected by the recession and pension fund managers are no exception. However, young people really should begin planning for their futures. Isn't it in the public's interest that everyone pays their fair share? After all, don't we all want to enjoy a high standard of living when we retire? It just makes common sense to plan ahead.

Compared to other countries, Ireland is lagging behind in tackling the problems of its ageing population base. A recent in-house report produced by my shareholders and I provides a strong argument in support of the mandatory pension scheme. According to our research, virtually all of the general public would support the introduction of a mandatory pension in principle. This report has been submitted to government officials in order to lobby for the mandatory pension scheme proposal. For more information on the pension funds, readers can visit my website www.pensionfund.com.

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PROPOSING A MANDATORY PENSION

HAVE YOUR SAY



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behind in tackling the problems of its ageing population base. A recent independent report produced by leading academics (Hay et al. 2013) provides a strong argument in support of the proposed mandatory pension scheme. According to their research, 30% of the general public would support the introduction of a mandatory pension in principle. This report has been submitted to government officials in order for them to consider the mandatory pension scheme proposal. For more information on the pension funds, readers can visit the website www.pensionfund.org.

Study 5 Materials

Exotic Food Advert

Indulging in Exotic Cuisine in Beijing

Travelers might often consider some of the things eaten in China to be distasteful. However, they must bridge the cultural gap and look at it with an open mind. There have been periods of severe famine even as recently as the late 1960's when tens of millions died of starvation during the Great Leap Forward. Back then, people would have been glad for what is on today's menu.

Dog is a common dish in Korean restaurants in Beijing. The dogs used are not pets taken from people's homes but are specially raised for food - just as cows, lambs and chickens are raised in the west. If you have an urge to eat a dog, ask for "gou rou" - pronounced "go row" in one of the city's many Korean establishments.

If you are in Wangfujing, be sure to visit Wangfujing Snack Street (Wangfujing Xiaochijie), located through an ornamental arch on the west side. Don't let this put you off as the food on this street is mostly "conventional" Chinese and is great for snacks, lunch or dinner.



There are many little food stalls down Wangfujing Snack Street serving a huge variety of food. Step up and read the menu: Seahorse (RMB30), Scorpion (RMB8), Cicada (RMB5), Stinky Fish (RMB3), and Starfish (which is not listed).



According to the precepts of traditional Chinese medicine, sea horses have sweet and warm properties, and are associated with the Liver and Kidney meridians. Among the conditions sea horse is used to treat are asthma, infections of the throat, insomnia, and abdominal pain. Sea horse can also be applied to the skin to treat skin infections and sores.



Scorpion makes your blood hotter in cold weather and dispels toxins in your body. Bad things attack bad things.

Study 6 Materials

Moderately Attractive Vacation Spot Advert

Welcome to Milwaukee:

Experience the History of Music and Visit the Art Museum



Milwaukee is the largest city in Wisconsin. It is located on the southwestern shore of Lake Michigan.

Milwaukee's most visually prominent cultural attraction is the Milwaukee Art Museum, and especially its new \$100 million wing. The museum includes a "brise soleil, a moving sunscreen that quite literally unfolds like the wing of a bird. The museum is home to over 25,000 works of art. Its permanent holdings contain an important collection of Old Masters and 19th-century and 20th-century artwork, as well as some of the nation's best collections of German Expressionism, folk and Haitian art, American decorative arts, and post-1960 American art.

Milwaukee has a long history of musical activity. The first organized musical society, called "Milwaukee Beethoven Society" was formed in 1843, three years before the city was incorporated. Milwaukee has advertised itself as the "City of Festivals," especially emphasizing an annual fair along the lakefront called Summerfest, which is also known as "The Big Gig". Listed in the Guinness Book of World Records as the largest music festival in the world, Summerfest attracts one million visitors a year.

Highly attractive vacation spot advert

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