



**Investigating Effective Social Marketing Campaigns:
The Direct and Indirect Impacts of Fear, Challenge, and Fear
Mixed with Challenge Appeals on Help-Seeking Intentions**

by

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Major Thesis submitted to the Business School,

The University of Adelaide

As part of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Date of submission: August 2015

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Abstract

The primary aim of the current study is to empirically test a novel conceptual framework which united the Cognitive Phenomenological Theory of Emotions (Lazarus, Kanner and Folkman, 1980), the Revised Protection Motivation Model (Arthur and Quester, 2004), and the Heuristic Systematic Model (Eagly and Chaiken, 1993) to investigate the impact of various emotions on help-seeking intentions (BI). In particular, this research was undertaken to investigate the persuasive power of emotional advertising eliciting fear, challenge and fear mixed with challenge in consumers to induce help-seeking behavioural intentions in social marketing context. The study seeks to evaluate the direct and indirect impact of fear, challenge and fear mixed with challenge on behavioural intentions via systematic mode and depth of information processing (SMIP/DP) and attitudes towards the advertisement (AT). The study also strive to determine whether respective influence of fear mixed with challenge emotional advertising serves as a conditioning stimulus to enhance systematic mode and depth of information processing, and indirectly, through attitudes towards the advertisement, influence the strongest intentions to seek professional help in comparison to fear or challenge appeals. Since marketing communication is progressing to an era of tailored messages targeted at individuals, this study investigates a-priori individual differences such as tolerance of ambiguity, tolerance of negative emotions, involvement with the advertisement, response efficacy and self-accountability to unveil the unique information processing patterns among consumers exposed to the emotional advertising.

The study is based on mixed research design and comprised of qualitative (thematic analysis) and quantitative stages (quasi-experiment with web-based survey). Results of the study empirically confirm that emotional blend of fear mixed with challenge indirectly via cognitive mediators of SMIP/DP and AT exerted the strongest positive impact on help-seeking intentions in comparison to fear or challenge appeals in at-risk population. Across all emotional appeals, heuristically proceeded messages resulted in non-significant impact on behavioural intentions. Additionally, the empirical results of the current research suggest that market segmentation should be effectively applied when using fear mixed with challenge in advertising, since a-priori individual characteristic such as tolerance of ambiguity weakens the relationship between attitude towards the advertisement and help-seeking behavioural intentions in at-risk population. The moderating role of involvement with the advertisement was also supported to strengthen the direct relationship between SMIP/DP and AT regardless of felt emotion/s. The research provides important information to social marketers seeking to exploit the persuasive impacts of emotional advertising on inducing help-seeking intentions in at-risk consumers.

Acknowledgements

I would like to express my deepest gratitude to people whose involvement made this research project possible. I was blessed to be guided throughout my doctorate candidature by three highly professional academics. They have been a source of knowledge, encouragement, and inspiration. I am grateful for the research insight, expertise, mentorship, and support of Professor Roberta Crouch, my primary supervisor. Professor Pascale Quester provided invaluable advice and direction during this PhD journey, sharing her wisdom and experience in the marketing and advertising fields. Doctor Jasmina Ilicic has been instrumental in obtaining the funding for this project. Her support and advice in any academic or personal matters during my PhD candidature was priceless. I appreciate the time they made for me in their very busy lives.

I also would like to express my appreciation to sponsors and practitioners who contributed extensively to this study. The qualitative data collection stage of this research would not be possible without Mrs. Rosemary Hambledon and Mrs. Corinna Freytag from RASA. Mr. Petko Petkov from “Empowered Communications” was very helpful during main data collection. I am thankful to Mr. Scott Carslake and his team from “Voice” for being creative and designing the advertising stimuli for this study. Also, I wish to thank Dana Thomsen, who provided editorial advice on my thesis. I would like to thank numerous participants who took part in this research during focus group discussions, pilot-tests, and web-based survey.

This research would not have been possible without the endless support of my family, friends, and colleagues. Most important, I am forever indebted to my husband Professor Gerrit de Vos and our son Leon, who gave me their loving support and encouragement throughout this journey, putting up with my odd working hours, and lost weekends. I could not have accomplished this research endeavour without Gerrit, who has been my greatest supporter and inspired me to broaden horizons and seek knowledge. Also, I am grateful to my mother Antonina Goptarenko and father Leonid Goptarenko, who fostered that ‘never give up’ attitude in me and always shared the faith in my abilities. To my family I dedicate this thesis.

Funding

The study was funded by the International Postgraduate Research Scholarship provided by the University of Adelaide, the Research Fund of School of Marketing & Management, and the Eco Entertainment Group LTD.

Abbreviations

- AT – Attitude towards the Advertisement
- AVE – Average Variance Extracted
- BI – Help- Seeking Behavioural Intention
- CFA - Confirmatory Factor Analysis
- CH – Challenge
- CPHTE - The Cognitive-Phenomenological Theory of Emotions
- CR – Construct Reliability
- EFA - Exploratory factor analysis
- ELM - The Elaboration Likelihood Model
- F – Fear
- HSM - The Heuristic-Systematic Model
- INV – Involvement with the Advertisement
- LMS – Latent Moderated Structural Equations
- LR - Log-likelihood Ratio Test
- MLR - Robust Maximum Likelihood Estimator
- CPGI - The Canadian Problem Gambling Index
- PGI – Problem Gambling Index
- PMT - The Protection Motivation Theory
- PB - Perceived Help- Seeking Benefits
- PSA - Public Service Announcement
- PS - Perceived Susceptibility
- RE – Response Efficacy
- RPMM - the Revised Protection Motivation Model
- SA – Self - Accountability
- SEM – Structural Equation Modelling
- SMIP – Systematic Mode and Depth of Information Processing
- TA – Tolerance of Ambiguity
- TNE – Tolerance of Negative Emotions

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Chapter 1: Introduction to the Study

1.1. Background to the Research and Research Justification

Social marketing is considered a catalyst to change individual and social behaviour (MacFadyen, Stead and Hastings, 2003) and is often used with advertising or mass media campaigns effort to shape attitudes, increase awareness or encourage use of certain services (Moloney, Walsh, Rudd and Moeykens, 1993). Social marketing relies on established and novel theories and marketing technologies that leverage its capacity to change behaviour, although untapped potential remains (Dibb and Carrigan, 2013). The primary objective of this research is to explore which type of advertising appeal is likely to, ultimately, stimulate help seeking behaviour in consumers via a social marketing oriented campaign. Recent research advocates the use of emotional advertising in social marketing contexts (Royne and Levy, 2015, Yoon, 2015a) to counteract promotions of self-harmful activities such as gambling (McMullan, Miller and Perrier, 2012), or smoking (Anderson, Glantz and Ling, 2005), or to persuade people to eat less junk food (Yan, 2014) and inspire respondents to donate money to the charity (Jianping, Zengxiang and Jing, 2014). Pursuing this study under social marketing context helps capture the essence of which emotional advertising is most persuasive to the target audience, and also builds on knowledge about how different consumers process emotionally charged information enclosed in the appeal.

The immediate goal of social marketing is to influence people's attitudes and beliefs or adopt a different attitude or belief to the benefit of the individual and society (Dibb and Carrigan, 2013). The Theory of Reasoned Action (Fishbein and Ajzen, 1975) and the Theory of Planned Behaviour (Aizen, 1985) stipulate that attitudes are shaped as a result of personal experience, reasoning or information. Both theories place attitudes within a sequence of linked cognitive constructs, namely beliefs, attitudes, intentions and behaviour, and claim that behavioural intention is a function of two factors: the consumer's subjective norm and the respondent's attitude towards behaving in a prescribed manner (Ajzen, 1988). In the advertising domain, attitude plays a major role as a mediator of advertising effectiveness (Holbrook and Batra, 1987). Antecedents of attitudes are explored by the Heuristic-Systematic Model (HSM) based on the assumption that attitudes are formed and modified as people gain information about attitude objects or targets of judgment,

including people, places or messages (Chaiken, 1980, Eagly and Chaiken, 1993). The HSM predicts that attitudes formed or shaped under high elaboration are more predictive of behaviour and information processing, more stable over time and more resistant to counter-persuasion (Chaiken, Liberman and Eagly, 1989). Empirically, high elaboration (i.e., systematic mode of information processing) has been found to transform attitudinal/evaluative reactions to behavioural intentions in social marketing contexts (Das, de Wit and Stroebe, 2003) as low elaboration (i.e., heuristic mode of information processing) was linked with lower perception of risk evaluations and risk judgements in health contexts (Trumbo, 2002). Attitudes formed through systematic mode of information processing are more desirable within a public health/ social marketing context, as research has demonstrated that they are stronger attitudes that persist over time and positively impact on behaviour (Petty, Haugtvedt and Smith, 1995, Yeh and Jewell, 2015). On the contrary, attitudes formed through heuristic processing (i.e., low elaboration) are potentially problematic from a public health/social marketing perspective, as such attitudes have been shown to be relatively weak and unenduring with little influence over behaviour (Haugtvedt, Schumann, Schneier and Warren, 1994).

Some researchers state that unless a theoretical model of information processing is employed to understand how people actually handle the message imbedded in the social marketing context, studies are unlikely to provide diagnostic value for advertising effectiveness (de Hoog, Stroebe and de Wit, 2005) and cannot predict the message's impact on respondents' attitudes and intentions. Based on the HSM theory, respondents are motivated to scrutinise message contents that are of personal importance as cognitive thinking based on intrinsic arguments is predicted to lead to more reliable and valid decisions (Chaiken, 1980). Likewise, in the public health/social marketing context, Munoz et al. (2010) confirmed empirically that advertising messages had to be threatening to increase cognitive responses, which in turn affected attitude change.

Emotions are one of the factors that determine behaviour in regards to seeking information and scrutinising the message (Marcus, MacKuen and Neuman, 2011). Emotions are essential in consumer decision making because emotions support cognitive elaboration (Phelps, 2006).

Modern neuropsychological theories consider rationality and emotion as two forces that keep pace and move in the same direction. Thus, the mechanisms of emotion and cognition are considered intertwined at all stages of stimulus processing and distinction between these two forces can be difficult (Du Plessis, 2008). Emotional arousal appears to act at both encoding (attention and elaboration) and consolidation stages of information processing (Clore and Storbeck, 2006, Lang, Sanders-Jackson, Wang and Rubenking, 2013) for various types of stimuli including emotional words, pictures, stories or televised advertising in which emotional arousal appears to be the critical factor (Clore and Storbeck, 2006, Lang et al., 2013, Wang, Solloway, Tchernev and Barker, 2012). Experience of emotional arousal serves as information to the central nervous system about event's importance, guiding attention and thus selecting material to be retained or consolidated into long-term memory (Clore and Huntsinger, 2009, Clore and Storbeck, 2006).

The explicit recognition of emotional advertising to impact on information processing represents an important step forward in understanding and predicting advertising effectiveness in various social marketing contexts (de Hoog, Stroebe and de Wit, 2007). For example, past research based on the HSM revealed that fear arousal can act as a motivator to induce recipients to engage in intensive and thoughtful message processing or can induce health threat minimisation in certain consumers leading to biased message processing (Gleicher and Petty, 1992, Liberman and Chaiken, 1992a, Averbek, Jones and Robertson, 2011). Respondents experiencing positive affective states can process information systematically, but with more time and effort as compared to negative affective states (Petty, Tormala and Derek, 2004b). Furthermore, researchers have recently begun to explore the impact of mixed, or coactive (Lang et al., 2013), emotional messages on information processing. This type of emotional message is often overlooked and requires further attention in the social marketing domain (Wang et al., 2012).

Empirical evidence suggests that the relationship between emotion and action is highly context dependent (Sun Young, Hyunseo, Hawkins and Pingree, 2008, Dillard and Peck, 2001) and requires careful consideration of consumer individual difference characteristics before channelling emotional appeals to different segments of a population (Arthur and Quester, 2004, Terblanche-Smit and Terblanche, 2011, Terblanche-Smit and Terblanche, 2010, Coleman and Williams, 2013). Thus, it is important to identify which emotion/s, positive, negative or mixed, and under which conditions act as facilitators or inhibitors of

message information processing and impact on individual attitudes and help-seeking intentions and behaviours. Hence as alluded to earlier, this study examines the decision-making process of help-seeking behavioural intentions and the mechanism behind advertising strategies in engaging, motivating and persuading at-risk respondents to seek professional help. In exploring motivational factors behind modes and depth information processing, this study extends current knowledge about the impact of emotions such as fear (negative), challenge (positive) and fear mixed with challenge (mixed emotions) on the elaboration stage of information processing and investigates how emotional advertising impacts on modes(i.e., heuristic, systematic) and depth of information processing, attitudes and behavioural intentions.

1.2. Objectives and Contribution of the Research

The objective of this study was to investigate how different emotional appeals, namely fear, challenge and fear mixed with challenge, influence individuals' processing of advertising information, attitude towards the advertisement and help-seeking intentions. Of particular interest was exploration of the role of mixed emotional appeals, such as fear mixed with challenge and capacity for this emotional blend to boost systematic mode and depth of information processing to enhance critical thinking for attitude formation in the social marketing context. Moreover, a-priori individual respondent characteristics (i.e., response efficacy, self-accountability, involvement with the advertisement, tolerance of negative emotions) were investigated for their potential moderating effects on the relationship between systematic mode and depth of information processing and attitudes towards the advertisement, or attitudes towards the advertisement and help-seeking behavioural intentions (i.e., tolerance of ambiguity).

This research establishes a conceptual framework illustrating a number of sequential paths derived conceptually from the Cognitive Phenomenological Theory of Emotions (Lazarus et al., 1980), the Revised Protection Motivation Model (Arthur and Quester, 2004) and the Heuristic Systematic Model (Eagly and Chaiken, 1993). The resulting framework assists marketing academics and practitioners to better understand direct and indirect impacts of fear, challenge and fear mixed with challenge emotional appeals on help seeking intentions via systematic mode and depth of processing and attitude towards the advertisement and

maps out the relationships between variables of paramount importance in advertising such as emotions, cognitions, attitudes and behavioural intentions.

Specifically, the research objectives are:

1. To examine the ability of fear, challenge and fear mixed with challenge to prompt the systematic mode and depth of information processing in at-risk respondents.
2. To investigate whether systematic mode and depth of information processing and attitude towards the advertisement fully mediate the impact of elicited emotions on help-seeking behavioural intentions across fear, challenge and fear mixed with challenge emotional appeals tested in this study.
3. To test the direct impact of various emotions on help-seeking intentions if the message is processed heuristically.
4. To reveal which emotional appeal has the strongest indirect impact on help-seeking behavioural intentions in an at-risk population.
5. To examine the moderating effect of individual consumer characteristics, such as tolerance of negative emotions, self-accountability, involvement with the advertisement and response efficacy, on the relationship between systematic mode and depth of information processing and attitude towards the advertisement. Likewise, to explore the moderating effect of tolerance of ambiguity on the relationship between attitude towards the advertisement and help-seeking behavioural intentions.

1.3. Research Stages of the Current Study

This study employed a mixed method approach combining qualitative and quantitative research techniques (Creswell and Clark, 2007). The combination of qualitative and quantitative data collection, analysis and interpretation provided an opportunity for synthesis of research traditions and provided additional perspectives and insights beyond the scope of a single technique (Creswell and Clark, 2007). Figure 1.1 illustrates the stages of the study.

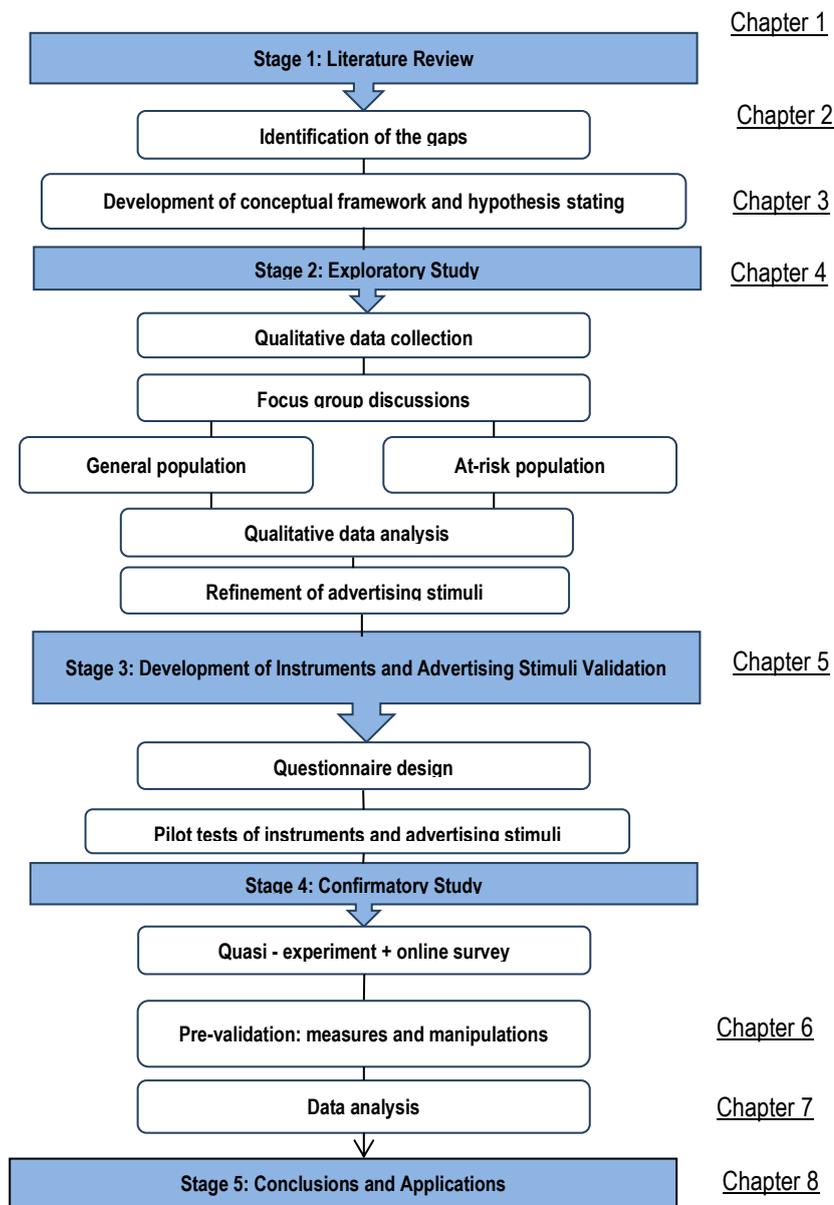


Figure 1.1 Research Stages of the Current Study

Stage 1: Literature Review

Stage 1 involved a detailed review of the literature from the advertising, marketing, consumer behaviour, social and clinical psychology domains, covering both theoretical and empirical sources. Particular attention was given to theoretical and empirical literature regarding fear, challenge and fear mixed with challenge emotions and appeals, individual consumer characteristics and the elaboration stage of information processing. A number of important gaps in knowledge were identified to develop a novel conceptual framework. During this stage, ethics clearance was obtained from the Human Research Ethics Committee (HREC) of the University of Adelaide to conduct exploratory and confirmatory studies.

Stage 2: Exploratory Study

The exploratory study was used as a preliminary test of the conceptual framework and to refine the advertising stimuli specifically designed for the study. Face validity of the advertising stimuli was confirmed by the target population. Two focus groups interviews were conducted with general population participants and three focus groups were conducted with the target population.

Stage 3: Development of Instruments and Quantitative Pre-tests of Advertising Stimuli

Following preliminary validation of the conceptual framework, quantitative questionnaires were developed and pretested (i.e., Qualtrics Web-Based Questionnaire). Specific attention was given to pilot testing and manipulation checks of advertising stimuli to ensure advertising stimuli evoked the intended emotions of fear, challenge or fear mixed with challenge in the targeted population. Before main data collection, research instruments were modified or replaced based on results of pilot tests and additional review of empirical literature was conducted to identify alternative measures. All modifications for the main study were approved by the HREC.

Stages 4 and 5: Confirmatory Study and Full Scale Data Collection and Analysis

A web-based quasi-experiment design with survey sampling methods was adopted for the confirmatory study. The data were used to model latent constructs and estimate the interdependent relationship postulated in the framework. Conclusions and applications of the research were described and discussed in detail.

1.4. Thesis Outline

This thesis is comprised of eight chapters. Chapter one has presented the research focus and main objectives of this study. It also outlined the research stages undertaken and explained thesis structure and chapters' content.

Chapter two reviews the relevant theoretical and empirical literature from various disciplines including advertising, marketing and consumer behaviour, social and clinical psychology. Chapter two concludes by identifying gaps in extant knowledge and presents the conceptual framework of the study.

Chapter three discusses the research questions and hypothesis, and describes the rationale of study design and adopted stages of research. Additionally, chapter three provides justification for the research context, briefly describes advertisement stimuli, and defines measurement instruments used in the study.

Chapter four discusses objectives and results of qualitatively pre-testing the conceptual framework and refines the several advertisement stimuli specifically designed for the current study.

Chapter five describes measurement instruments included in the questionnaire and pre-testing procedures. This chapter also describes quantitative pre-validations of the advertising stimuli to confirm that designed stimuli conferred with the theory and evoked intended emotions in targeted respondents. The construct and predictive validities and reliabilities of the instruments are discussed alongside results of all pilot tests.

Chapter six focuses on methodology of the main study describing research design and data collection method, sample size determination and sample characteristics of recruited participants. Validity and reliability of research instruments used for the main data collection are discussed in this chapter. Special attention is devoted to manipulation checks to ensure the advertising stimuli elicited intended emotions (fear, challenge and fear mixed with challenge) in participants following ad exposure.

Chapter seven explains how the proposed conceptual framework was tested empirically and statistical techniques chosen to analyse data. Structural Equation Models and Latent Moderated Structural Equations Models are described in detail including specification and estimation results.

Chapter eight summarises key findings across empirical models and highlights theoretical and empirical contributions yielded by the current research project. Limitations and directions for future research are also discussed.

1.5. Summary

This chapter provides the background, objectives and contributions of the current study. It also describes research phases and outlines thesis structure and content. The next chapter reviews theoretical and empirical literature relevant to the current study.

Chapter 2: Empirical Findings Regarding Fear, Challenge and Fear Mixed with Challenge Appeals

2.1. Introduction

Chapter two reviews the literature relevant to the respective contributions of fear appeals, challenge appeals, and fear mixed with challenge emotional appeals in influencing consumers' message processing, attitudes, and help-seeking behaviour. This chapter critically outlines the gaps in existing knowledge. In particular, it highlights the controversy that exists within the pure fear appeals literature on advertising effectiveness and information processing, stressing the role of mixed emotional appeals such as fear mixed with challenge as a better approach in social marketing communication. Moreover, individual consumer characteristics such as self-accountability, response efficacy, involvement with the advertisement, and distress tolerance for negative emotions are discussed as moderators between systematic mode of information processing and attitude towards the advertisement. Additionally, tolerance for ambiguity is also reviewed as it may moderate the relationship between attitudes towards advertisement and help-seeking behavioural intentions.

2.2. Emotions: Origins, Features, and Functions

The majority of appeals used in advertising aim to generate emotional responses from the consumers, based on the fact that emotions are considered as “the gatekeepers” for further cognitive and behavioural reactions (Poels and Dewitte, 2006, Yoon, 2015a). Hence, the multidimensional roles and functions of emotions should be taken into account in order to create impactful and persuasive advertising. Based on the International Dictionary of Psychoanalysis (2005), the word emotion is derived from the Latin *emovere*, “to set in motion”, referring to the idea of physical movement and assuming a metaphorical meaning associated with mental movement. According to the Merriam-Webster dictionary (2004), the word “emotion” dates back to 1579, when it was adapted from the French word *émouvoir*, which means “to stir up” or “to excite”. Scientifically however, there is little agreement on what an emotion is. Debate about an exact definition of emotion has been continuous for more than a century amongst those who study this phenomenon. The least controversial central features that jointly define what is generally meant by emotion were summed by Scherer (2009).

These central features are 1) focused on specific events; 2) involve the appraisal of intrinsic features of objects or events as well as of their motive consistency and conduciveness to specific motives; 3) affect most or all bodily subsystems which may become to some extent synchronized; 4) are subject to rapid change owing to the unfolding of events and reappraisals; and 5) have a strong impact on behaviour owing to the generation of action readiness and control precedence. In other words, emotion is an experience that includes a subjective feeling, a cognitive interpretation, a physical reaction, and a behavioural expression. Emotions deliver important information about our reactions to situations, whereas inhibiting the expression of emotions can result in an impaired immune system and diminished health (Kiecolt-Glaser, McGuire, Robles and Glaser, 2002). Numerous scientists emphasise the importance of emotions for human behaviour and decision making (LeDoux, 2012, Hall, 2002, Damasio, 1994) based on the fact that emotional involvement is considered essential to motivate analytical thought (Phelps, 2006).

2.2.1. Emotions and Cognition

The early research on emotion and cognition was largely represented by two camps of scholars, that is - those favouring affective primacy theories and those supporting cognitive primacy hypotheses. The affective primacy theory (Zajonc, 1980, 1984, 2000) is a theoretical position, postulating that affect retrieval often precedes semantic categorization and identification processes of the stimuli. Conversely, cognitive primacy theory (Lazarus, 1984) stipulates that semantic processing must precede affective processing. The term “semantic” describes the meaning analysis that is proposed to precede affective analysis (Storbeck, Robinson and McCourt, 2006). Observers of the debate between Lazarus (1984) and Zajonc (1984) have generally concluded that the resolution of the debate was centred on definitional issues, specifically as related to cognition and emotion (Leventhal and Scherer, 1987). More recent research postulates that emotion is a basic form of decision making and comprises cognitive processes as much as sensory processes, often guiding judgements and actions (Immordino-Yang and Damasio, 2007). Emotion and cognition relate to each other not only behaviourally, but also centrally. Emotions involve automatic, attentional, and evaluative processes more than computational or propositional forms of cognition and, therefore, involve cognition in the broad sense of the term (Young 2011).

Research stream in affective and social neuroscience has discovered that various emotions (e.g. anger, fear, happiness, sadness) are cognitive and physiological processes that involve both the body and mind (Damasio, Grabowski, Bechara, Damasio, Ponto, Parvizi and Hichwa, 2000). *Emotional thought*, as an interplay product between emotion and cognition, represents the platform for learning, memory, decision-making, creativity, and helps to guide judgements and actions, both in social and non-social contexts (Immordino-Yang and Damasio, 2007). Similarly, Greenberg (2002) states that emotion and cognition form complex affective–cognitive structures, which she termed *emotion schemes*. These memory-based emotion schemes guide appraisals, bias decisions, and serve as blueprints for physiological arousal and action. Affective intelligence theories (Marcus et al. 2011) maintain that cognitive and emotional processes are mutually engaged and mutually supportive, rather than antagonistic, as individuals seem to use emotions as tools for efficient information processing which enhances their ability to engage in meaningful deliberation.

To sum up, emotions serve as a primary meaning system, a primary action tendency, and a primary communication system. Hence, emotional advertisements can motivate consumers to move closer to the issue which these ads address. Persuasive advertising expresses a relevant thought in which emotions organise the flow of emotional reactions throughout the advertisement in order to achieve particular dramatic effect which impacts on consumers' attitudes, intentions, and behaviours (Puntoni, de Hooze and Verbeke, 2015, Yoon, 2015b).

2.2.2. Approaches and Theoretical Traditions to Understanding Emotions and Their Development

Emotions are investigated through various scientific approaches guided by diverse schools of thought. Major perspectives in the study of emotions include the biological, cognitive, functional, and social-cultural approaches (Young, 2011). The fundamental assumptions of each approach are summarised in Table 2.1. The current study embraces the cognitive approach and follows theoretical traditions of appraisal theories in order to study emotional phenomenon. Importantly, available neurological evidence provides relatively conclusive data in favour of cognitive primacy hypothesis (Storbeck et al., 2006). That is, cognition is primary to affect, both in causal and temporal terms.

Approaches	Selected theories and contributors	Fundamental assumptions
Biological	Basic emotions theories Tomkins (1962), Plutchik (1962) Ekman (1992), Izard (1992), Panksepp (1994), LeDoux (1996)	Specific type of event triggers a particular affect programme related to one of the basic emotions and produces distinctive expression patterns and physiological response patterns. A handful of basic emotions is universally present and pre-programmed with distinct motoric expressions and has a specific neurobiological basis
Cognitive	Appraisal theories of emotions Arnold (1960) Lazarus (1966) Frijda (1986), Scherer (2001), (Roseman and Smith, 2001, Sander, Grandjean and Scherer, 2005)	Thought and emotion are inseparable. Appraisal is based on individuals' subjective evaluation of the importance of events for their well-being. Each emotion has its specific appraisal patterns. Classical or prototypical facial displays for particular emotions do not exist.
Functional	Functionalist emotion theories (Barrett and Campos, 1987, Stein and Trabasso, 1992)	Emotions serve to establish, maintain, or alter the relationships of the organism to its environment. Emotions are considered expressions of the organism adapting in the context of serving functions significant to the organism, rather than expressions of facial prototypes, neurological patterns, or other biological signatures.
Social-cultural	Social-constructionist theories Averill (1980), Harré (1986) Lutz (1988), Armon-Jones (1985)	Emotions originate and emerge within social patterns and any explanation of them as basic universals will neglect their contextuality. There are no basic emotions, and the environmental and cultural components underlying emotional expression are the most powerful ones.

2.2.3. Different Types of Emotions

There are numerous classifications of emotions in the extant literature. The ten fundamental emotions experienced are interest, joy, surprise, sadness, anger, disgust, contempt, fear, shame/shyness, and guilt (Izard and Buechler, 1980). None of these emotions can be classified as intrinsically “positive” or “negative”, however, for convenience, the fundamental emotions are frequently divided into positive and negative classes based on their most likely consequences for the individual (Izard and Buechler, 1980).

The current overview focuses on typologies of emotions based on cognitive processing requirements. Emotions differ depending on how much cognitive processing they require before they are formed. These differential properties of emotions are important elements to consider from a message processing perspective. Emotions that are primitive, spontaneous, uncontrollable, and arise automatically are called “type1” emotions (Rossiter and Bellman, 2005) or “lower-order emotions” (LeDoux, 1996) that do not require to be cognitively marked as a specific emotion (Bellman, 2007). These types involve pleasure, arousal, and dominance reactions which indicate individuals’ state of feelings (Mehrabian and Russel, 1974). In particular, according to Mehrabian and Russel (1974), pleasure is defined as a continuum ranging from extreme pain or unhappiness to extreme happiness. They used adjectives such as happy-unhappy, pleased-annoyed, or satisfied – unsatisfied to describe an individual’s level of pleasure.

Arousal was defined as mental activity describing a state of feeling along a single dimension ranging from sleep to excitement (e.g. stimulated-relaxed, excited-calm, wide awake - sleep). Dominance was linked to feelings of control and the extent to which an individual feels constrained in his behaviour ranging from dominance to submissiveness labelled with adjectives such as controlling, influential, and autonomous.

Emotions that depend on deeper cognitive processing of the situation are called “type 2” emotions (Rossiter and Bellman, 2005) or “higher-order emotions” (Lazarus, 1991). Type 2 emotions, such as fear, love, anger, contempt, empathy, nostalgia, or desire, need to be consciously labelled as a specific emotion which require cognitively and culturally pre-determined high-road processing (Bellman, 2007). Poels and Dewitte (2006) suggest that fear, anger, and happiness are situated somewhere in between lower and higher order emotions. On the other hand, Bellman (2007) argues that anger and fear are more correctly classified as type 2 emotions because if cognitively unrecognised, anger and fear cannot be distinguished from arousal. Interestingly, Lovecraft (2005) classify fear as the oldest and strongest human emotion and the oldest and strongest form of fear is the fear of the unknown. This literature review further discusses the fear emotion. For clarity reasons, the emotion, fear, is described in this literature review from the perspective of psychologically healthy individuals.

2.3. Emotion: Fear

There appears to be something fundamental about fear as pointed out by Svendsen (2008, p.13) who suggests in his book, ‘A Philosophy of Fear’, that it is scarcely a coincidence that fear is the first emotion to be mentioned in the Bible: “When Adam ate from the Tree of Knowledge and discovered that he was naked, fear preceded shame.” Apart from the philosophical interpretation, the fundamental role of fear in living organisms is scientifically justified, since fear is useful for mobilising quick and adaptive reactions in response to threatening situations (Ekman, 1992). As a result, fear is assumed to have: 1) quick onset; 2) brief duration; 3) involuntary onset; 4) yielding almost instant recognition of the fearful stimulus as a function of autonomic arousal; 5) universal antecedent events (i.e., not specific to one particular culture); 6) accompanying physiological symptoms; and 7) distinctive associated facial expressions and behaviours (Ekman, 1992).

The instrumental characteristic of the emotion-action link in fear is to escape or avoid harm or danger (Lazarus, 1991). The actions of fear also serve coping functions, seen as an evolution-linked effort to surmount the harm or master the danger by eliminating or weakening it (Lazarus et al., 1980). Hence, fear is seen as having survival value because of its close ties with adaptive actions. Fear, being a stressful emotion, can be an instrumental component of adaptation, if it boosts coping functions (Lazarus et al., 1980), or an undirected and maladaptive discharge of tension or anxiety based on individual perceptions and adaptation abilities (Bush, Sotres-Bayon and LeDoux, 2007). Fear is useful because of the physiological mobilisation it engenders to cope with emergencies. In contrast, the same mobilisation for action is also the basis of stress disorders (McEwen, 2003). As a coping mechanism, fear generates escape and intensifies withdrawal feelings as an attempt to repress fear-based stress and eliminate threatening material from the consciousness (Nielsen and Shapiro, 2009). Due to the evolutionary primacy of the brain's fear circuitry, fear is more powerful than reason (Maren, 2008). Research utilising a variety of visual search tasks confirm that fear-evoking stimuli capture attention and/or produce delayed disengagement, resulting in delayed completion of the primary task (LoBue, 2010, Soares, Esteves and Flykt, 2009).

In conclusion, the extant literature suggests that fear is the fundamental emotion and is multi-faceted as it strongly impacts on cognition, physiology, and behaviour. From the evolutionary perspective, fear contains protection, and acts as defensive action. However, fear, as a stressful emotional reaction, can prompt maladaptive outcomes. Next, theoretical and empirical evidence of the effectiveness of fear appeals is discussed.

2.3.1. Fear Appeals: Selected Theoretical Models with the Focus on the Revised Protection Motivation Model

Recent research advocates the use of emotional advertising in social marketing contexts (Roynes and Levy, 2015) to counteract promotions of harmful products or activities such as smoking, gaming, or gambling (Anderson et al., 2005, McMullan et al., 2012). Decades ago, it was found that in comparison to multiple message strategies, advertisements portraying negative emotions were better remembered and more frequently recalled than ads showing warm, other positive feelings, or no emotional content (Lee and Davie, 1997, Snipes, LaTour and Bliss, 1999).

Some researchers suggest that negative emotions in advertising can be very influential based on their ability to create tension and suspense in respondents (Yeshin, 2006, Puntoni et al., 2015, Muñoz, Chebat and Borges, 2013). Emotion-based persuasion in the form of fear appeals has been used in the social and health-related context as a communication strategy (de Hoog et al., 2005, Smith and Stutts, 2006), with the aim of influencing individuals' attitudes, intentions, and behaviours (Lee and Shin, 2011, Smerecnik and Ruiter, 2010, Morales, Wu and Fitzsimons, 2012).

The definition of fear appeals is “persuasive messages that arouse fear by depicting a personally relevant and significant threat, followed by a description of feasible recommendations for deterring the threat” (Witte and Allen, 2000, p. 605). Many practitioners consider fear elicitation to be necessary to motivate and persuade consumers to accept and carry out protective activities (Tanner, 2006, Algie and Rossiter, 2010, Wauters, Brengman and Janssens, 2011, Munoz, Chebat and Suissa, 2010, Morales et al., 2012, Muñoz et al., 2013).

In order to explain the relationship between fear appeal and the acceptance of the recommendation enclosed within the message, several theoretical frameworks have been proposed. These models can be placed in several categories: 1) Fear as a learning-enhancing drive that includes the Drive Reduction Model (Hovland, 1953); 2) Models on the cognitive basis of precautionary motivation, which includes the Parallel Process Model (Leventhal, 1970), Protection Motivation Theory (Rogers, 1975), Ordered Protection Motivation Model (Tanner et al. 1991) and Revised Protection Motivation Model (Arthur and Quester, 2004); 3) Extended Parallel Process Model (Witte, 1992). The selected theoretical models of fear appeals are summarised in Table 2.2.

Table 2.2: Summary of Selected Fear Appeals Theoretical Models

Theories	Fundamental assumptions	Critique
<p>The Drive Reduction Model (Hovland, 1953)</p> <p>The Curvilinear or inverted “U” model (Janis, 1967, Ray and Wilkie, 1970)</p>	<p>Fear appeals would elicit fear and that fear, in turn, would act as a drive to motivate action. Higher levels of fear increase persuasion up until some critical point is reached; beyond this critical point the level of fear causes defensive avoidance and message rejection.</p>	<ul style="list-style-type: none"> Based on mixed and inconsistent empirical findings, determination of the validity and reliability of the models is difficult (Lewis, Watson, Tay and White, 2007). The models do not reflect on the individual characteristics and fear perception, largely ignoring the intricacy of human decision-making (LaTour and Zahra, 1989).
<p>The Parallel Response Model (Leventhal, 1971)</p>	<p>There are two separate paths to persuasion: an emotional ‘fear control response’ and a cognitive ‘danger control response’. The cognitive response, by controlling the danger or threat, results in adopting the message recommendations as opposed to the emotional response, which involves controlling the fear by either maladaptive means such as rationalising/minimising the risk or rejecting the message.</p>	<ul style="list-style-type: none"> Fails to clearly specify the circumstances under which danger control or fear control responses would be initiated (Witte and Allen, 2000). Oversimplified, and lacks testability. Individual uniqueness, including distinctive patterns of feelings and thinking are ignored (LaTour and Zahra, 1989)
<p>The Protection Motivation Model (PMM) (Rogers, 1975)</p> <p>Ordered Protection Motivation Model (OPMM) (Tanner et al. 1991)</p> <p>Revised Protection Motivation Model (RPMM) (Arthur and Quester, 2004)</p>	<p>PMM-Strongly focuses on cognitive factors of fear appeals (severity, vulnerability, and efficacy). Each of these components result in a corresponding cognitive mediator (perceived severity, expectancy of exposure, and belief in the efficacy of the coping response) that combines to produce some level of protection motivation, which is synonymous with the intention to perform behaviour. The more protection motivation elicited, the greater the attitude, intention, or behaviour change.</p> <p>OPMM emphasises emotional processes associated with evoked fear as a more accurate explanation of protection motivation.</p> <p>RPMM- The model implies that fear is an outcome of threat appraisal, since it increases attention and belief in persuasive messages. Fear has a greater positive effect on behavioural intentions for individuals with high perceived self-efficacy and perceived response efficacy than for individuals with low perceived self and response efficacies. Model incorporated segmentation variables (social acceptance versus physical threat reactions and authoritarianism) in a smoking context.</p>	<ul style="list-style-type: none"> Whilst the models have been regarded as a sound approach to explaining how, when, and for whom threat messages are successful, it has been criticised for not providing explanation as to how and why they may fail. Predictions resulting from the theories often have not been supported by experimental research. (Beck and Frankel, 1981). Models (PMM) do not explain how interaction between threat appraisal and coping appraisal takes place, or how interaction is related to protection motivation and subsequent behaviours (Witte, 1992).
<p>Extended Parallel Process Model (EPPM) (Witte, 1992)</p>	<p>When perceptions of personal vulnerability and threat severity are high, then individuals are motivated to appraise their efficacy. In turn, if individuals’ perceptions that the recommendations in the message and their capacity to perform them are high, then cognitive processing (danger control process) takes place, leading to adaptive behaviours. On the other hand, if severity and personal vulnerability perceptions are high but perceptions of efficacy are low, then emotional processing occurs (fear control processing). Fear control processing is considered maladaptive and results in denial/avoidance and message rejection.</p>	<ul style="list-style-type: none"> Reflects on a paradigmatic residue from the cognitive era, in which emotions were generally assumed to interfere with optimal decision making; fails to reflect fear’s potential to directly cause coping responses; neglects the possibility and implications of further information seeking upon the exposure to threatening messages (So, 2013).

To test the relationship between fear appeals and the acceptance of the recommendation enclosed within the message, Arthur and Quester (2004) used the Revised Protection Motivation Model (RPMM; see Figure 2.1).

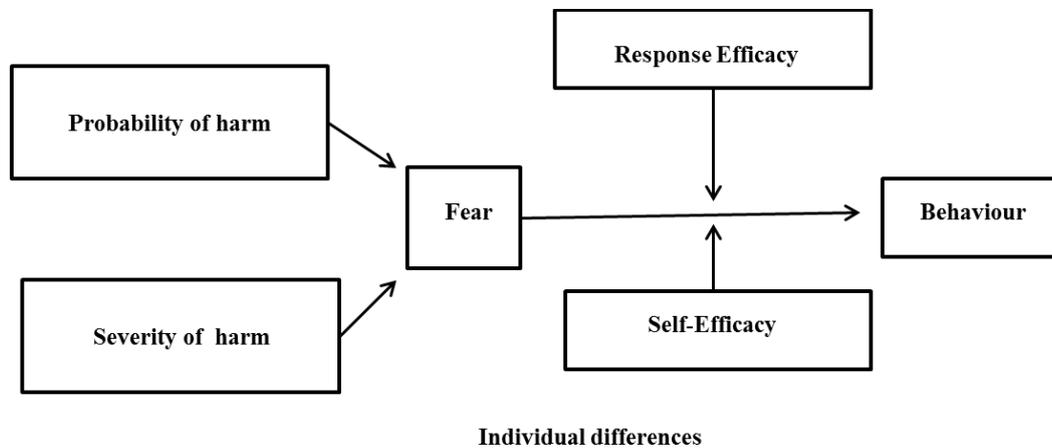


Figure 2.1: Revised Protection Motivation Model (Arthur and Quester, 2004)

The RPMM model explains that the threat appraisal indirectly influences behavioural change through fear (Arthur and Quester, 2004). The model stipulates that a consumer appraises a threat via perceptions of *severity* (magnitude of noxiousness of a depicted event), the probability of harm and *susceptibility/vulnerability*, which maximises fear elicitation in consumers. The fear-evoking stimulus is effective in changing behaviour only if it provides evidence that the coping response will be efficient in eliminating the fear (*response efficacy*), and proposes that the respondent is capable of undertaking the coping response (*self-efficacy*). Thus, fear has a greater positive effect on behavioural intentions for individuals with high perceived self-efficacy and perceived response-efficacy.

The empirical support for a relationship between fear, threat, and efficacy appraisals is weak (Arthur and Quester, 2004). For instance, elicited fear is not always directly linked to attitudes and intention (Cauberghe, De Pelsmacker, Janssens and Dens, 2009), and response efficacy and self-efficacy do not necessarily act as moderating variables in the fear-behavioural intent relationship (Arthur and Quester, 2004). More recently, Terblanche-Smit and Terblanche (2010) similarly find insignificant relationships between response efficacy and self-efficacy on attitude. With regards to the perceived threat construct, elicited fear is causally linked only with perceived vulnerability, but not with the perceived severity of a threat in a smoking context (Arthur and Quester, 2004), with

similar findings identified since in the case of gambling (Munoz et al., 2010, Muñoz et al., 2013), and HIV/AIDS (Terblanche-Smit and Terblanche, 2011).

Furthermore, empirical results in relation to fear appeal effectiveness outside RPMM are mixed. Numerous authors argue that fear appeals can be an effective persuasive communication strategy if combined with high efficacy, and thus provide empirical results in favour of fear appeals (Hammond, 2007, Racela and Thoumrunroje, 2012, Borland, Yong, Wilson, Fong, Hammond, Cummings, Hosking and McNeill, 2009, Schmitt and Blass, 2008, Palmgreen, Lorch, Stephenson, Hoyle and Donohew, 2007, Wauters et al., 2011, Morales et al., 2012, Zhang, Borland, Coghill, Petrovic-Lazarevic, Young, Yeh, and Bedingfield, 2011). Despite the fact that fear appeals can be an effective communication device under high response efficacy conditions (Witte, 1998, de Hoog et al., 2007) and for certain segments of populations, such as segments high in authoritarianism (Arthur and Quester, 2004) or high in agreeableness, openness/intellect and conscientiousness (Terblanche-Smit and Terblanche, 2011), they can have unintended negative ethical effects on consumers (Arthur and Quester, 2003, Hastings, Stead and Webb, 2004a, Williams, 2011), or may also elicit defensive responses (Albarracín, Gillette, Earl, Glasman, Durantini and Moon-Ho, 2005, Muthusamy, Levine and Weber, 2009), causing them to “backfire” (Wechsler, Nelson, Jae Eun, Seibring, Lewis and Keeling, 2003, Brown and Locker, 2009, Lennon and Rentfro, 2010).

Moreover, recent meta-analysis (Peters, Ruiters and Kok, 2012) critically re-analysed the fear appeal empirical evidence. This research reveals that: 1) very few studies could theoretically have supported the use of threatening communications; and 2) those studies that do exist do not support the wide application of threatening communications. Instead, they indicate that using threatening communication is, at best, ineffective and, at worst, causes health-defeating behaviour, unless the intervention contains an element that effectively enhances response efficacy and (especially) self-efficacy (Peters et al., 2012). Peters et al. (2012) specifies that the inconsistency in results regarding the effectiveness of threatening communication is likely to be attributed to the unreliable and weak methodology of the previous studies, making empirical results untrustworthy. In fact, only eight studies satisfied the strict inclusion criteria applied in this latest meta-analysis examining the main effects, of which only six tested the interaction effect and the simple effects. Results based on these six studies revealed a significant interaction between threat

and efficacy, such that threat only had an effect under high efficacy and efficacy only had an effect under high threat. However, under low efficacy, the effect of threat was negative and almost significant, suggesting that threatening information may cause individuals to engage in health-defeating behaviour. Indeed, de Hoog et al. (2007) claim that the value of the empirical results on fear appeals should be discounted as explicit measurement of information processing and its impact on attitudes/behaviour intentions/behaviour is missing in most of the fear appeal frameworks.

2.3.2. Fear Appeals and Information Processing: Inconclusive Empirical Evidence

The extant literature on whether fear facilitates or damages information processing produces mixed empirical findings. Fear elicitation and arousal can act as a motivator to engage in intensive and thoughtful message processing (de Hoog et al., 2007). Fear appeals do not prompt a fight-or-flight defensive response but, rather, facilitate the increased attention to capture information helpful to evaluate the threat (Ordoñana, González-Javier, Espín-López and Gómez-Amor, 2009). That later experiment was conducted on 92 subjects, and utilised 4x2 between-subjects factorial design by means of a block assignment procedure such as high threat/high efficacy x high threat/low efficacy x low threat/high efficacy x low threat/low efficacy stratified by sex. Increased skin conductance and decreased cardiovascular activity of respondents exposed to the high threat stimulus (centered on symptoms and consequences of tetanus and picturing threatening images of knives and convulsion) reveals a response pattern consistent with heightened attention to the message and better information capturing.

Furthermore, Munoz et al. (2010) explored the potential benefits of threatening warnings (focused on negative outcomes of problem gambling such as family disruption, financial failures, and suicide) to enhance compliance with the recommendations to stop gambling. Their 4 x 2 (weak, moderate, strong levels of threat and a control group x the provider's game source and a medical source) between-subjects factorial design experiment was conducted with 258 subjects (12% non-problem gamblers, 51% moderate problem gamblers and 37% problem gamblers). The results indicated that aroused fear enhanced depth of information processing for those highly involved with the advertisement, and that it positively impacted on attitude change and compliance intentions.

Moreover, recent study by Muñoz et al. (2013) conducted with 103 problem gamblers (i.e., video lottery terminal players), investigated the effects of fear-eliciting graphic warnings related to excessive gambling. The study compared the effectiveness of graphic warnings vs. text-only warnings and the effectiveness of two major arguments (i.e., family vs. financial disruption). The graphic picture depicted a video lottery terminal (VLT) as a monster eating a gambler and showed circles on the VLT screen that depicted the negative (financial or family) outcomes that gamblers might suffer from excessive gambling. The study was based on theoretical frameworks of the Protection Motivation Theory (PMT) and the Elaboration Likelihood Model (ELM). Authors employed a 2 x 2 factorial design to test the direct and combined effects of two variables (i.e., warning content and presence vs. absence of a graphic). Empirical results indicated that the presence of a graphic enhances both cognitive appraisal and fear, and has positive effects on the depth of information processing in gamblers. In addition, graphic content combined with family disruptions was found to be more effective for changing attitudes and complying with the warning than other combinations of the manipulated variables.

Conversely, several authors claim that individuals engaged in risky and often addictive behaviour, such as smoking (Brown and Smith, 2007, Diehr, Hannon, Pizacani, Forehand, Meischke, Curry, Martin, Weaver and Harris, 2011) or drinking (Wolburg, 2006) inhibit processing of fear appeals. For example, Brown and Smith (2007) reported that consumers strategically reduce their estimates of personal risk when confronted with a potentially distressing health message in a smoking context, spending less time attending to the fearful message. The distressing message condition used in that experiment conducted with 102 smokers included high resolution digital photographs portraying cancerous lungs with tar deposit, gangrenous foot, lung emphysema, cancerous growth on a jaw, and specific text messages focused on statistical information of smoking health risks. Their results indicated that this risk inhibitory effect is mediated by a tendency to make more negative evaluations of the distressing message by smokers.

Furthermore, in line with the social neurocognitive evidence (Kessels, Ruiter and Jansma, 2010) threatening health information causes more efficient disengagement by those for whom the health threat is self-relevant. The experiment manipulated the level of threat of the smoking pictures (low vs. high) and the validity of the trials (valid vs. invalid) as within-subjects factors and included smoking status (smoker vs. non-smoker) as a

between-subjects factor. In a randomised, controlled trial with 29 subjects (14 smoking and 15 non-smoking) a variant of Posner's cueing task (Posner, 1980) was used in combination with the high-temporal resolution method of event-related brain potentials. Such combination allowed the measurement of both attention-capturing and attention-holding (disengagement) processes to investigate early visual selective attention processes in response to self-relevant health threat information. More specifically, following a variant of Posner's cueing task, participants reacted to a target (i.e., two horizontal or two vertical dots) presented at the left or right visual field. The target was preceded by a cue (e.g. high- and low-threat smoking pictures) at either the target location (valid trials; 82%) or at the opposite location (invalid trials; 18%). The high threat stimuli illustrated the negative health consequences of smoking and contained pictures of, for example, black lungs and children near smoking cigarettes. Notably, valid trials boosted rapid behavioural responses because the presented cue instantly directed the attention to the correct location. In invalid trials, attention was disengaged from the incorrect location and had to be reallocated toward the target position. Hence, reactions to the valid trials revealed attention-capturing processes while reactions to the invalid trials revealed attention-holding (disengagement) processes. Results indicated that even though high threat images captured more attention in smokers and non-smokers, high-threat smoking pictures caused more efficient disengagement processes than low-threat smoking pictures, but only in smokers. The authors conclude that the use of high-threat information may be counterproductive for people performing risky behaviours.

Moreover, consumers engaged in risky compulsive consumption behaviour, such as drinking, inhibit the processing of information enclosed in pure fear appeals (Nielsen and Shapiro, 2009). For example, Nielsen and Shapiro (2009) reported eye-tracking evidence that attention is automatically diverted from threatening information in a high-risk population. Their experiment involved 61 student subjects, and incorporated mixed factorial design with group (experimental vs. control) as a between-subjects factor and type of word (related to the threat vs. unrelated to the threat) as a within-subject factor. Participants viewed a fear appeal advertisement depicting the negative consequences of drink driving. The results of a reaction time task indicated inhibited responses to words semantically related to drinking (such as bottle, beer, party, and alcohol) compared to a baseline group that controlled for priming effects and level of fear. Notably, those in the

experimental condition adopted an attention avoidance processing style to alcohol-related advertisements.

Overall, such inconclusive empirical findings on fear appeal effectiveness on information processing prompt us to re-examine the persuasive role of pure fear appeals and to explore whether an alternative communication strategy of fear mixed with another emotion would enhance consumers' message processing, attitude change, and behavioural intentions, resulting in a more effective communication strategy.

2.4. Mixed Emotional Appeals: A Notion Derived From Psychology

Relative to appeals based on fear, much less focus has been placed on explaining the persuasive process of mixed emotions and their impact on message information processing. *Mixed emotions* (Aaker, Drolet and Griffin, 2008, p. 268) are emotional states defined by both positive and negative emotions experienced jointly (Larsen and McGraw, 2011) or in close temporal proximity (Lazarus, 1991). The psychology literature extensively debates the existence and usefulness of mixed emotions (Larsen, Hemenover, Norris and Cacioppo, 2003, Larsen and McGraw, 2011). Recent empirical evidence confirmed that simultaneous experience of mixed emotions is possible (Larsen and McGraw, 2011, Hong and Lee, 2010) and even beneficial (Braniecka, Trzebińska, Dowgiert and Wytykowski, 2014, Adler and Hershfield, 2012, Coifman, Bonanno and Rafaeli, 2007). For example, Braniecka et al. (2014) claim that simultaneous experience of conflicting emotions promote adaptive coping through fostering the motivational and informative functions of emotions. Furthermore, mixed emotions can be ideal for ensuring successful adaptation and well-being by providing solution-oriented actions rather than avoidance, fostering decisions regarding coping strategies (Braniecka et al., 2014). Others claim that simultaneous experience of mixed emotions in times of hardship can ultimately lead to greater well-being over time (Adler and Hershfield, 2012, Coifman et al., 2007). In particular, the blend of happiness and sadness in response to therapeutic treatment, ranging from significant psychopathology to more typical stressful life events such as divorce or transition to parenthood, was associated with and precedes improvements in well-being (Adler and Hershfield, 2012).

Further evidence from the field of positive psychology suggests that “co-activating mixed emotions (both negative and positive) may allow individuals to make sense of stressors, to gain mastery over future stressors, and to transcend traumatic experiences” (Larsen et al., 2003, p. 213). These researchers further argued that “co-activation of positive and negative emotional processes may be central to one’s ability to focus on stressful information long enough to find adaptive solutions” (Larsen et al., 2003, p.220). In this view, co-activation of positive and negative emotional processing is an important human strength as it enables individuals to work through and transcend negative emotion more effectively. After considering the positive physiology perspective towards eliciting mixed emotions and reflecting on inconclusive persuasive evidence of pure fear appeals, the literature review focuses on mixed emotional appeals, with particular emphasis on fear appeals mixed with positive emotion/s.

2.4.1. Mixed Emotional Appeals: Accumulated Empirical Evidence from the Consumer Research and Advertising Domains

Recent empirical evidence in the extant literature indicates that mixed emotions can be central to goal pursuit and personal achievement, and a critical component in meaning making (Mukherjee, Kramer and Lau-Gesk, 2012). For instance, Mukherjee et al. (2012) reported that consumers derive meaning, from mixed affective experiences, especially if such experiences involve goals and personal achievements (e.g. mastering a challenging mountain bike ride). Meaning was defined as offering sense of purpose and attainment of goals that are important to individuals. Results of a 2 (affective experience: mixed vs. pure positive) x 2 (focus: outcome vs. process) experiment, conducted with 115 subjects, revealed a significant interaction between affective experiences and focus on enjoyment ($F(1, 11) = 4.62, p < .05$). According to the authors, mixed affective experiences tend to be significantly more enjoyable (6.53 vs 6.0; $F(1, 11) = 5.49, p < .05$) than pure positive affective experiences. Moreover, meaningfulness was proved to mediate mixed affective experiences on enjoyment, although such effect only emerged for consumers focused on outcomes or the end goal of the experience.

Other research finds consumers perceive mixed emotions as reflecting reality, especially in the face of adversary (Jianping et al., 2014), and so can be processed fluently depending upon an individual’s perspective towards them (Hung and Mukhopadhyay, 2014, Williams,

2012). For example, a public service announcement (PSA) eliciting mixed emotions lead to a more positive attitude towards donations for victims of floods, earthquakes, and poverty, than a PSA evoking predominately negative emotions (Jianping et al., 2014). The study was based on 2 x1 between subject design (emotion: negative vs. mixed). Emotion was manipulated by using a PSA pleading for aid to a Young Children Education Foundation. The ad portrayed the face of a young child with the verbal claim. In the negative emotion condition, the verbal claim described the sadness of the situation facing the child (e.g., disability, poverty). In the mixed emotion condition, the verbal claim addressed both the sadness of the situation and the strength, perseverance and self-reliance shown by the child dealing with the situation. The authors concluded that the positive impact of mixed emotions on attitude towards donations was due to a higher level of inspiration and empathy evoked by the mixed emotion PSA.

In the advertising domain, researchers have recently begun to explore the impact of mixed or sometimes referred as *coactive* (Lang et al., 2013, p. 515) emotional messages which are often overlooked and beget further attention (Wang et al., 2012). Earlier study, conceptually based on the limited capacity model of motivated mediated message processing (LC4MP), stipulated that simultaneously co-activated positive (appetitive system activation) and negative emotions (aversive system activation) function as a conditioning stimulus which prompts information processing and orients action (Lang, 2006). LC4MP postulates that information processing consists of three primary cognitive sub processes such as encoding, storage and retrieval (Lang, 2000). Encoding is the process of selecting important information from the media stimulus for further processing. Storage is the process of linking new information to old information within an associative network memory model. Retrieval is the ability to reactivate previously stored information (Lang, 2000).

Recent empirical support was found for the notion that coactive messages, in comparison to only positive or negative emotional content, resulted in more resource allocation and better encoding and storage of information as a result of the dual activation of the motivation systems (i.e., aversive and appetitive) (Lang et al., 2013). A later study was conducted on 68 participants to explore their responses toward negative, positive, and coactive televised messages in drug prevention, anti-smoking, and safe sex contexts. The study utilised a 3 (Message Type: increasingly positive, increasingly negative, and

increasingly coercive) x 3 (Time: the first, middle, and last 10 s in each 30-second message) x 4 (Messages: four messages presented in each message type) x 4 (Order of presentation) mixed design, where message type, time, and messages were treated as within subjects factors. The messages were 30-second public service announcements with only moderately arousing attributes (i.e., no sexual behaviour, nudity or blood). Positive messages contained positive and pleasant locations, people displaying positive emotions, and positive activities related to drug prevention, anti-smoking, and safe sex contexts. Negative messages showed unpleasant locations, people displaying negative emotions, and negative activities related to drug prevention, anti-smoking, and safe sex contexts; whereas coercive messages contained both positive and negative elements including locations, display of emotions, and activities. In this study, coercive messages had faster secondary task reaction times, enabling better recognition, cueing recall, and resulting overall in a higher level of information encoding, storage and retrieval throughout the message.

Another study, in an anti-drug context, suggested that the *co-presence* of positive and negative emotional content in the stimulus enhances consumers' attention, cognitive resource allocation, information encoding and storage (Wang et al., 2012). Specifically, the authors examined the influences of the 'mixed feelings' evoked by anti-marijuana public service announcements on real-time attentional and emotional responses among 59 college students. Eight televised anti-marijuana PSAs (i.e. released by the Office of National Drug Control Policy) were 30 seconds long and included messages with positive, negative or coercive content. PSAs with a typical positive content included parties, playing, and sports scenarios; happy, confident, hopeful, trustful, or funny facial and verbal expressions; humorous narratives or actions; beautiful landscapes; and sunny weather. Typical negative content included death, illness, safety threats, and social isolation; verbal and facial expressions showing disappointment, desperation, fear, regret, guilt, or indifference; boredom; and gloomy weather. Coercive content was constructed by juxtaposing or closely sequencing positive and negative content described above. The empirical results suggested, by real-time psychophysiological responses (i.e., heart rate, skin conductance level, and facial electromyography), that co-presence of positive and negative content (i.e. coercive PSAs) is most attention stimulating than messages with only positive or purely negative content and revealed that was not moderated by an individual's experience with marijuana. Decreased heart rate and increased corrugator electromyography recorded for the respondents supported this hypothesis.

Furthermore, an earlier study on mixed emotions (Carrera, Muñoz and Caballero, 2010), utilising a conceptually different theoretical framework of fear appeals such as the extended parallel process model (Witte, 1992), reported empirical evidence in support of the effectiveness of mixed emotional content in advertising. Two experimental studies explored appeals with mixed sequential emotions (i.e., sadness/fear-joy/relief) in the context of binge drinking. Participants were asked to read carefully emotional message, one eliciting negative emotions (i.e., sadness and fear) and another evoking both negative and positive emotions sequentially. The negative emotional message described an individual who abused alcohol at a student party and was hospitalised with severe health consequences. The mixed emotional message contained similar information as the negative message, but additionally included information that the hospitalised individual has recovered and felt happy and joyful after his dismissal from hospital. The results from the first study (113 participants) suggested that a mixed message (fear/joy) generates lower post-message discomfort than an exclusively negative message. More importantly, the reported probability of engaging in binge drinking in the future was also lower in the mixed condition. The fear mixed with joy message in the second study (71 participants), repeatedly generated lower post-message discomfort in contrast with the pure fear appeal. Moreover, participants evaluated response efficacy more positively in the mixed condition. The authors stated that “the mixed message (i.e., fear/joy/relief) generated a less unpleasant mood state, and was associated with a more positive appraisal of the behaviour alternative to the risk behaviour (drinking in moderation) and lower reported probability of performing the risk behaviour in the near future. Importantly, the fear mixed with joy message, even when it generated a higher level of post-message discomfort, did not result in a reported higher probability of performing the risky behaviour. This boomerang effect was predominately associated with the fear-based message used in the study.

Additionally, Mukherjee and Dubè (2012) provided empirical evidence that humour mixed with fear appeal can reduce defensive responses, and therefore enhance the persuasive effect of fear advertising in the context of skin cancer. This study (124 participants) was designed as a 2 (fear tension arousal: moderate vs. high) x 2 humour: absent vs. present) between subjects factorial design. The high fear tension ad portrayed a scarred face and presence/absence of humour was manipulated by adding/not adding a cartoon that portrayed humorous use of sunscreen lotion on a beach (i.e. smiling cartoon characters splashing each other with the sun-screen). The results of two studies indicated that

increasing fear tension arousal from moderate to high increased persuasion when humour was added to the message, yet decreased persuasion when humour was absent in the message. Further, the results of both studies revealed that the interaction of humour and fear was mediated by a reduction in defensive responses to the ad, measured by positive thoughts about the brand and perceived vulnerability to the threat.

Likewise, Spears, Blankson and Guzmán (2012) reported empirical results in favour of fear mixed with hope messages in social marketing advertising. Four antismoking ad scenarios were developed: negatively framed, positively framed, and two combination framed messages. The negative frame included the information on large numbers of death from lung cancer among smoker in order to elicit fear. The positive frame scenario contained information regarding the health benefits after quitting smoking and illustrated that the number of people trying to quit smoking doubled in recent years to elicit positive emotion (hope) in individuals. The combination frame included the negative message first (fear) followed by the positive message (i.e. hope). In the other combination frame, the positive message was placed first, (i.e. hope eliciting), followed by the negative message, (i.e. fear eliciting), in an attempt to elicit mixed emotions. Findings from that study suggest that when fear is mixed with hope, through different strategies designed to undo fear, the combination condition is more actionable in terms of behavioural change intentions than either low or high levels of fear alone. The study findings supports the hypothesis that fear narrows the thought-action process while hope increases or broadens behavioural change intentions and attitude toward the ad.

2.4.2. Fear Appeals Mixed With Challenge: Limited Empirical Evidence

The concept of mixed fear and challenge appeals is particularly interesting, yet remains underexplored in social marketing advertisements, warranting further investigation. As previously mentioned, the definition of fear appeals is well established. Challenge advertising appeals include cues of optimism, social inclusion, personification of the health concern, and combat (Smith, 2007). “Battle the health concern” recommendations in a challenge message are very action-oriented, listing multiple opportunities and types of action, including prevention, treatments, testing, support, and research. Frequently, situations portrayed in advertising are perceived as challenging if they provide the chance to succeed on a task that is deemed difficult, but likely to be possible (Smith, 2007).

Situations also tend to be perceived as challenging if they stimulate respondents to perform with the main goal of establishing that they can succeed (I can do it!) (Wright and Kirby, 2003).

Passyn and Sujan (2006) examined the effectiveness of mixed emotional appeals such as fear mixed with challenge, fear mixed with hope, fear mixed with guilt, and fear mixed with regret, in motivating consumer behaviour in the context of sunscreen usage and fibre consumption. The authors stipulated that fear appeal, when combined with emotions high in self-accountability (i.e., challenge, regret and guilt) would better motivate sun-screen usage and boost consumption of fibre foods by study participants. Self-accountability was operationalised as a sense that the self is accountable and responsible for the outcome. Notably, self-accountability was differentiated from self-efficacy, the authors claiming that even though a person may be capable or self-efficacious, s/he ought to feel accountable to ensure behaviour (Passyn and Sujan, 2006). Pamphlet materials for challenge (high self-accountability, positive), regret (high self-accountability, negative), hope (low self-accountability, positive), and fear (low self-accountability, negative) were used to produce a 2 (high or low self-accountability) x 2 (positive or negative valence) experimental design. The first pamphlet's paragraph in all conditions induced fear by focusing on an individual who suffered from cancer (e.g. malignant melanoma); elevated fear was evoked by the description of the final cancer stage; whereas regret was evoked by the individual's admittance of self-blame for not using sunscreen; guilt was evoked by the character's concern for his mother and hope was elicited through wishful thinking about regained health. Finally, in the challenge condition, the central character confronted cancer by acknowledging the situation (to avoid self-blame) and focusing on understanding and mastery. The authors reported that a fear appeal message combined with high self-accountability emotions (e.g. challenge or guilt combined with regret) resulted in stronger behavioural intentions and higher behaviour compliance than a mixed combination of a low self-accountability emotion, such as hope, combined with fear. Interestingly, both the negative emotions (regret/ guilt) and the positive emotion of challenge combined with fear were effective in motivating action, prompting the authors to declare that "feeling good or bad is irrelevant for action, as long as one feels responsible to act" (Passyn and Sujan, 2006, p.586). These authors also confirmed that greater intention to use sunscreen resulted in the actual behaviour in the high self-accountability conditions (i.e., fear combined with challenge, or fear combined with guilt/regret) as 33 participants reported actual sunscreen

usage (i.e., 3, 10, and 18 day after the distribution of the advertising stimuli). Although these outcomes are promising, they should be interpreted with caution and rigorously tested in different health contexts (i.e. gambling).

Next, our literature review focuses on the cognitive phenomenological approach to emotions (Lazarus et al., 1980), which provides theoretical grounds to explain that each emotion has its specific appraisal patterns, based on individuals' subjective evaluation of the importance of events for their well-being. A particular focus is placed on fear, challenge and fear mixed with challenge appraisal patterns.

2.4.3. The Cognitive-Phenomenological Perspectives' on Fear Challenge and Fear Mixed with Challenge: Theory and Empirical Evidence

The cognitive-phenomenological theory of emotions put forth by Lazarus et al. (1980) and later evolved into the transactional theory of stress and coping (Lazarus and Folkman, 1984), is based on the concepts of cognitive appraisal and coping. This theory stipulates that evaluations (i.e. cognitive appraisals) of various events evoke specific reactions (e.g. emotions) in different individuals. Basically, an appraisal of a specific situation causes a specific emotional or affective response based on that appraisal. Cognitive appraisals can be primary and secondary. The *primary appraisal* is the evaluation of every event or encounter for its significance for a person's well-being. In other words, the cognitive evaluations are directed at the establishment of the significance or meaning of the event to the subject. This event or encounter can be personal insignificant and be ignored; or it can be benign-positive or alternatively *stressful*. Stressful encounters can take three forms, namely, *harm-loss*, *threat*, and *challenge*. *Harm-loss* encounters refer to situations (i.e., injuries) that have already occurred; *threat* encounters refer to atrocious events that are anticipated; and *challenge* encounters refer to situations with a potential for gain, mastery, or growth, rather than harm or danger. *Secondary appraisal* is the process of evaluating the options available in a stressful encounter and focuses on the assessment of the ability of the subject to cope with the consequences of the event or encounter.

The cognitive appraisals and reappraisals of unfolding events that have changing relevance to one's well-being are supportive of mixed emotion coexistence, not necessarily

simultaneous, but within close time proximity. Lazarus et al. (1980, p.230) defined such cognitive appraisals and reappraisals of unfolding events as an “*emotional flux* or a course or series of emotional transactions intervened with cognitive appraisals”. Importantly, Lazarus et al. (1980) stated that if a stressful encounter centres not only on anticipatory threats with the potential for harm and loss, but also on anticipatory positive expectations and potentials for gain and mastery, then both emotions of fear and challenge are apt to be experienced. For example, anticipatory appraisals of potential threats and potential positive expectations/gains in an ambiguous and stressful context, such as an important final examination, evoke mixed emotions such as fear and challenge in students (Folkman and Lazarus (1985).

Whereas *fear* is defined as a foreboding emotional response to a potential and relevant threat (Folkman and Lazarus, 1985), *challenge* is an ambiguous positive state, which has emotional implications expressed in terms like enthusiasm, excitement, exhilaration, happiness, or even joy, as in the joy ‘of battle’ (Lazarus et al., 1980, p. 206). Challenge is an emotional outcome of a cognitive appraisal where one anticipates to grow and gain from a demanding, ambiguous, and stressful encounter or set of encounters, and it is associated with the attainment of meaningful rewards (Lazarus et al., 1980, Lazarus, 1991). In such a case, “excitement, hope, eagerness, and joy can help keep a person alert and vigilant to important information inputs enclosed in the encounter” (Lazarus et al., 1980, p. 206). Challenge states can evoke a sense of subjective power and control, and be accompanied by a sense of personal efficacy (i.e., the strength of one's belief in one's own ability to complete tasks and reach goals) when confronted to a stressful situation (Blascovich and Tomaka, 1996) and generally lead people to engage in ongoing mental operations more confidently and thoroughly (Lazarus, 1991). For example, according to Lazarus (1991), a challenge “makes one feel good, and anticipate substantial expansion of one’s functioning, with relevant thoughts coming easily and with a subjective impression that one is approaching the zenith of one’s powers leading to free-flowing use of intellectual resources, and “an eager, joyful state of mind” (Lazarus, 1991, p. 420).

Accumulated empirical evidence suggests that challenge fosters individuals to be open to message processing (Schneider, Rivers and Lyons, 2009). Challenge also motivates individuals to prevent problems through mastery (Smith, Haynes, Lazarus and Pope, 1993, Passyn and Sujun, 2006). Research shows that upon setting a mastery goal, a person is

inclined to use strategies that promote the detailed processing of the information (Ames, 1984), hence enhancing elaboration. Moreover, challenge generates positive affect (Smith and Ellsworth, 1985) which in turn enhances the ability to integrate diverse information based on increases in brain dopamine levels, especially in prefrontal cortex and anterior cingulate, which are thought to underline better cognitive performance (Ashby and Isen, 1999). Other scholars claim that positive affect expands the attention scope (Fredrickson and Branigan, 2005) and enhances interaction with cognitive control, a key part of which is the ability to hold and update behaviourally relevant information with a facilitating effect on working memory maintenance and processing of information (Lindström and Bohlin, 2011). Fragmented empirical evidence also suggests that individuals experiencing positive affect are flexible, creative, and efficient in their information processing, and thus positive affect generates more elaborative networks of association (Lee and Sternthal, 1999, Isen, 2003). Positive affect and its controversial impact on the modes of message information processing will be discussed in more detail when addressing the Heuristic Systematic Model in this literature review.

2.4.4. Challenge and Perceived Benefits

Each positive emotion results from an evaluation of a particular type of benefit and the distinctive type of benefit associated with challenge is the potential for success (Smith et al., 1993). Challenge is an appraisal that one can potentially grow and gain from a demanding encounter or set of encounters, and is associated with an expectation of meaningful rewards or a difficult-to-attain, yet expected benefit (Lazarus et al., 1980, Lazarus, 1991, Lazarus, 2000). Appraisal of anticipatory positive expectations/benefits in an ambiguous and stressful context, such as an exam, evokes hopefulness, confidence, and eagerness, which are the emotional outcomes of challenge (Folkman and Lazarus, 1985).

Similarly, Skinner and Brewer (2002) confirmed that the anticipation of positive benefits interconnected with a stressful situation (i.e., "I am focused on the positive benefits I will obtain from this situation"; "I am looking forward to the rewards of success"; "I am thinking about the consequences of performing well"), prior to stressful achievement events, such as an examination, were associated with high levels of positive emotions which accompany challenge (i.e., excited, alert, enthusiastic). The appraisal element of

challenge in Skinner and Brewer (2002)' study was associated with positive emotion, and was subsequently associated with greater perceived emotional benefits for exam preparation and performance. Even though these studies explored the process of challenge appraisal in a stressful university examination context, they indirectly provided an important conceptual indication that cognitively appraised expectations of difficult-to-attain benefits acted as the antecedents of positive emotions associated with the positive state of 'challenge'. This notion is particularly helpful for advertising stimuli design that can be later adapted to the gambling context of the current study.

The public health literature suggests that *perceived benefits*, defined as beliefs about the positive outcomes associated with behaviour (Glanz, Rimer and Lewis, 2002) can influence both intrinsic (i.e., health benefits and social pressure to quit smoking) and extrinsic (i.e., financial benefits of quitting smoking) motivation when persuading smokers to quit (Bonevski, Paul, Lorraine and Lecathelinais, 2010). They are also positively associated with pre-treatment motivation and total abstinence goals in a smoking context (McKee, O'Malley, Salovey, Krishnan-Sarin and Mazure, 2005). For example McKee et al. (2005) examined gender differences in anticipated outcomes related to smoking cessation in 573 smokers. Their research findings indicate that the perceived benefits of smoking cessation (i.e., health, financial, social, and self-esteem) were significantly and positively associated with pre-treatment motivation and intentions to quit in both genders. Interestingly, when consumers follow advice that promises a reward for their efforts, they are less likely to manifest a psychological reactance response common in fear appeals, as consumers perceive the behaviour as intrinsically motivating (Kivetz, 2005). Psychological reactance implies that consumers react against attempts to control their behaviour and threats to their freedom of choice (Brehm, 1966).

In the gambling literature, the role of perceived benefits is less clear and sometimes described as motivators for help-seeking. Financial and relationship issues were the most frequently explained motivators for seeking gambling-related treatment among 526 Canadian problem gamblers in a study by Suurvali, Hodgins, Toneatto and Cunningham (2012). Notably, over two-thirds of the gambling respondents in this study could not think of a reason for seeking help, which suggests that more research is needed to devise educational campaigns focussing on potential benefits of help-seeking that could encourage earlier help-seeking by at-risk gamblers.

2.5. Self-Accountability: Empirical Evidence from Various Domains

As mentioned earlier in this literature review, challenge is associated with strong appraisal of *self-accountability* (Passyn and Sujana, 2006), defined as “an assessment of the degree to which oneself is responsible for the situation” (Smith and Kirby, 2011, p. 201).

Indirectly, and collectively, a substantial body of research on accountability in marketing, organisational behaviour, law, personality, and social psychology fields suggest that perceptions of important personal consequences (*accountability*) has a positive effect on participation, problem recognition, information search, and choice stages (Doney and Armstrong, 1996, Tetlock, 1983, Lion and Meertens, 2001, Chaiken et al., 1989). For example, Lion and Meertens (2001) found that being held accountable affected information-search depth about risky medicine. The analysis revealed that accountable respondents search for more information than non-accountable respondents. The effects of accountability were found on controllability of side effects, on disadvantages associated with drug side-effects, and negative/positive experiences with the medicine. The authors explained that respondents were involved and motivated to search for information, given the fact that medicine in the message could save lives. Accountability, in turn, added to that effect, leading respondents to process information more systematically.

Additionally, Chaiken et al. (1989) provided evidence that accountable respondents process information more thoroughly than non-accountable respondents. The authors found that participants who felt accountable for their attitudes attempted to understand and process the arguments and evidence presented in a persuasive message, processing information systematically, while subjects who did not feel accountable for their attitudes simply relied on heuristics, such as the likableness of the source of the message, in deciding what position to take. Respondents who felt accountable for their attitudes attempted to understand and process the arguments and evidence of a persuasive message in greater detail before deciding what position to take (Chaiken et al., 1989).

In a legal context, Tetlock (1983) identified that accountability can motivate complex, self-critical, and vigilant information processing. Empirical evidence in Tetlock (1983) suggested that accountable respondents who realised they had to justify their views prior to exposure to the evidence recalled significantly more case information than subjects who felt unaccountable or were accountable only after exposure to the evidence.

Experimental recall data showed that pre-exposure accountability led to greater elaboration of encoding depth of processing of the stimulus material.

Accountability often stimulates self-critical forms of thoughts, especially when individuals are warned that they will be held accountable for their decisions, hence increasing both information processing and decision vigilance (Lerner and Tetlock, 1999). Several authors identify that accountability encourages not only extensive and effortful information processing but also self-critical awareness of one's evaluative processes (Thompson, Roman, Moskowitz, Chaiken and Bargh, 1994, Tetlock and Kim, 1987, Skitka, Mosier and Burdick, 2000). Thompson et al. (1994)'s experiment revealed that post-exposure accountable participants who initially encoded evidence in a heuristic fashion returned to the evidence and processed the information more systematically. Similarly, Tetlock and Kim (1987) demonstrated that accountability increased both the amount of information processed to form an impression, as well as an analysis of the quality of that information. Accountable participants, when requested to form impressions of target individuals, drew inferences from more information and developed more integrated impressions (information-processing correlate), focussing on whether the informational basis for their judgment was adequate (judgment-vigilance correlate). Additionally, several authors reported that pre-decisional accountability was associated with vigilant information processing and, as a result, less reliance on the order in which the information appears (Webster and Richter, 1996, Kennedy, 1993).

Based on previous research, it appears that accountability in general and self-accountability in particular, may determine how consumers process the information enclosed in an advertisement. Self-accountable consumers may elaborate on the message with greater depth, following a more systematic mode of information processing, and forming a stronger attitude. Whereas consumers low on self-accountability are expected to follow shallow, heuristic information processing, hence forming weaker attitudes.

This literature review will now focus on theoretical perspectives and empirical evidence of information processing as antecedents of attitude change. Theory, such as the Heuristic Systematic Model (HSM) (Eagly and Chaiken, 1993) delineates how information is processed and predicts how modes of information processing impact on consumers' attitudes.

Before addressing HSM theory, however, it is important to briefly review the information processing stages and to outline the dimensions of information processing on which this current research is focused.

2.6. Information Processing: Stages and Levels of Cognitive Effort

One dimension of information processing involves the stages of attention, elaboration, and behaviour. The other dimension of information processing is the level of cognitive effort exerted by consumers while processing information. The different stages of information processing and the various levels of cognitive efforts are schematically outlined in Figure 2.2

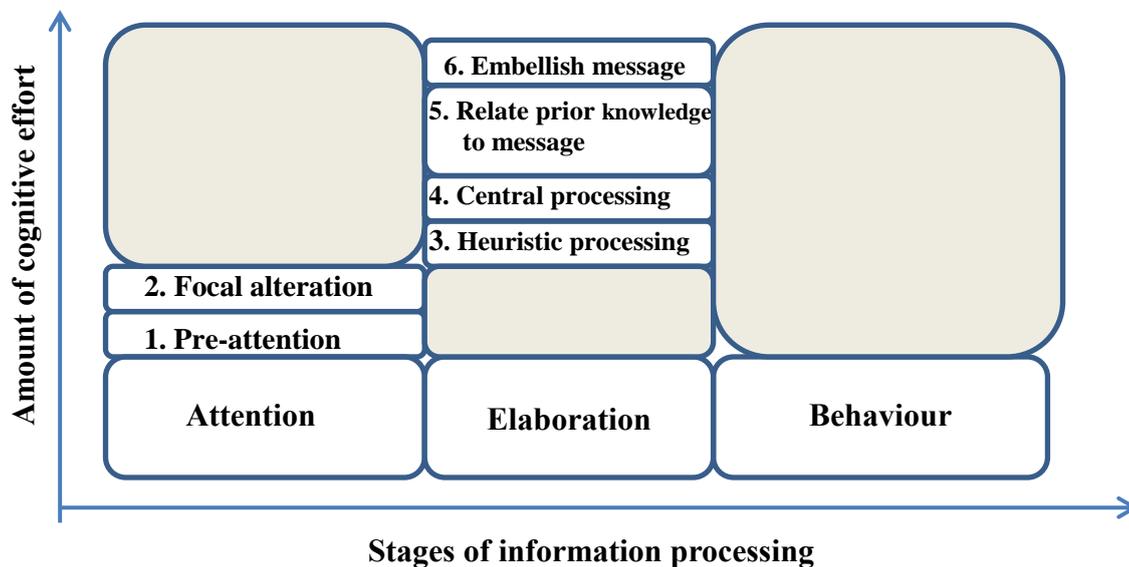


Figure 2.2: Information Processing Model (Tam and Ho, 2005)

MacInnis and Jaworski (1989) proposed six levels of information processing where levels 1-2 of cognitive processing are embedded in the attention stage and levels 3-6 are incorporated into the elaboration stage. The lowest level of cognitive effort or pre-attention is characterised by the instant stimuli analysis which yields few or no effects (Greenwald and Leavitt, 1984). The second level is characterised by a focal alteration of attention, where message receivers divide their attention between the message and the secondary task. The third level shifts from the attention stage into the message elaboration stage and is characterised by heuristic message assessment, in which the cognitive capacities employed remain low. Motivation to process information is also low to moderate.

The fourth level is characterised by consumers attempt, while moderately motivated, to integrate the full information contained in a message, hence utilising more cognitive resources. Prior knowledge related to the message content is assessed leading to central processing of the message. The fifth level is characterised by consumers' involvement prompting them to relate their own experience to the message content. According to Mick (1992), the sixth level is characterised by consumers' attachments of positive/negative attributes to the message beyond the message content.

The current research focuses on the elaboration stage of information processing and evaluates how respondents' process information in various emotional appeals, such as fear, challenge, and fear mixed with challenge. Further, our discussion addresses the Heuristic Systematic Model (HSM) (Eagly and Chaiken, 1993) which established a link between information processing modes and attitudes.

2.6.1. The Heuristic - Systematic Model (HSM): Theory and Empirical Findings

The nature of information processing goes beyond simply paying attention to, or comprehending the arguments in the message. Elaborative processing involves generating one's own thoughts in response to the information to which one is exposed in the advertising message. The Heuristic-Systematic Model (HSM) examines information processing as an antecedent to attitude formation and is based on the assumptions that attitudes are formed and modified as people gain information about attitude objects (Chaiken, 1980, Eagly and Chaiken, 1993). If the message is elaborated upon and found unpersuasive, then arguments will be generated as to why this is the case. When the elaboration consists of more favourable cognition, the attitude is strengthened, and the receiver typically endorses the recommendation in the message.

The HSM embraces a dual process approach, and postulates that message receivers process information using different *modes*: *systematic* or *heuristic*, or both. *Heuristic* processing is defined as "a limited mode of information processing that requires less cognitive effort and fewer cognitive resources" (Eagly and Chaiken, 1993, p. 327). *Systematic* processing, by comparison, involves a much more comprehensive effort to analyse and understand information. Systematic information processing is based upon critical thinking and the

message is given due consideration. When message recipients lack the motivation or the ability to process the detailed information in the message content, they engage in heuristic mode of processing and rely on simple cues for judgement formation (e.g. activating a mental shortcut based on the source of information such as “experts are generally correct”). For heuristic processing to take place, an associated decision rule has to be cognitively available, accessible, and perceived as a reliable basis for judgement (Eagly and Chaiken 1993). Conversely, both forms of processing can take place simultaneously as people process information to the point they regard as sufficient (Eagly and Chaiken, 1993).

In general, attitudes developed through a more intense form of processing (i.e., systematic) are stronger and more intensely held than those developed through shallow (i.e., heuristic) processing. Empirical studies based on HSM confirmed that when a message was processed systematically, the currently held attitude was strengthened or altered in some enduring manner and tended to be more permanent, whereas attitudes based on heuristic processing were relatively more unstable (Griffin, Neuwirth, Giese and Dunwoody, 2002, Chaiken et al., 1989, Chaiken and Maheswaran, 1994, Griffin, Neuwirth, Dunwoody and Giese, 2004). Moreover, systematic processing positively relates to the degree to which people actively consider salient beliefs or depth of processing (Griffin et al., 2002, Griffin et al., 2004). For example, Griffin et al. (2002) found that deeper, more systematic processing of risk information was positively related to evaluation strength, attitude strength, and the number of strongly held behavioural beliefs which were actively considered by respondents when thinking about personal health risks (i.e., consumption of polychlorinated biphenyls laden fish and hazards from waterborne parasites in tap water) or environmental risks (e.g., lake ecosystem hazard). The greater depth of processing of risk-related information impacts on attitudes because a greater number of relevant behavioural beliefs are accessed, weighed, and actively considered (Ajzen and Sexton, 1999, Griffin et al., 2002). The depth of processing is positively associated with systematic processing and known to impact on the strength of risk-related evaluations, risk related attitudes, and consequently on risk-related decisions and behaviors (Griffin et al., 2002, Griffin et al., 2004).

2.6.2. The HSM and Fear Appeals

Extant literature points out that consumers use emotions as tools for efficient information processing, which enhances their ability to engage in meaningful deliberation, judgement, decision making, and reasoning (Marcus et al., 2011, Blanchette and Richards, 2010). For instance, according to the HSM, fear arousal can have two effects, namely, 1) act as a motivator to induce recipients to engage in intensive and thoughtful message processing and 2) induce defence motivation (e.g., health threat minimisation), which will lead to biased message processing (Gleicher and Petty, 1992, Liberman and Chaiken, 1992a). Empirical findings, based on the Stage Model of the Processing of Fear Arousing Communications (de Hoog et al., 2005, 2007) when considered alongside the HSM, suggest that when risk is perceived as irrelevant, individuals rely on heuristic processing when attending to the message. However, when individuals do feel vulnerable to a minor risk, this feeling of vulnerability induces sufficient motivation to systematically process threat and coping components (i.e., self-efficacy/response efficacy). When individuals do not feel vulnerable at a particular point in time, but a risk is depicted as severe, they are also motivated to invest the effort of processing the contents of a communication, because it is useful to be well informed about a serious risk, even if the danger is not imminent (de Hoog et al., 2005). Moreover, de Hoog et al. (2007) argue that a defensive reaction, such as health threat minimisation, can still increase persuasion through biased, yet systematic, processing. Empirical findings from a meta-analysis (de Hoog et al., 2007) support this theory.

Additionally, Averbeck et al. (2011) argued that individuals with lower fear arousal could attend to the message content as they did not have to deal with a fearful affective state. Conversely, a lack of prior knowledge resulted in high fear arousal and heuristic processing of information about the health threat. Through a 2 (prior knowledge: low vs. high) x 2 (topic: sleep deprivation vs. spinal meningitis) repeated measures design (172 respondents), the authors concluded that high fear arousal leads to a heuristic mode of information processing for respondents with little prior knowledge about the topic, and that prior knowledge about a topic reduces the impact of fear arousal and leads to systematic processing.

2.6.3. The HSM and Positive Affect

In HSM terms, positive affect prompts consumers to process information heuristically (Eagly and Chaiken 1993; Petty and Cacioppo 1986). However, Petty et al. (2004b) stated that respondents experiencing positive affective states could still process information systematically, but it took more time and effort. Critically, general reference to positive affect in the literature overlooks the differential impact that emotions with the same valence can have on information processing. Recent research, which delineates positive emotions as discrete categories of the same valence, shows that specific positive emotions influence judgements and information processing strategies in different ways (Griskevicius, Shiota and Neufeld, 2010). For example, contrary to the dual processing modes, a recent study by Huber, Meyer, Weihrauch and Weisshaar (2014) reported that affect-based cues, such as feeling of care and security, triggered more cognitive responses and served as a motivational component in information processing. The effect of the feeling of care and security on attitude toward the advertisement was stable in both high and low involvement levels and, therefore, could be seen as a strong instrument for persuading consumers.

Moreover, Griskevicius et al. (2010) reported findings that positive affect produced more “heuristic” or more “systematic” processing than an emotionally neutral state, based on emotion-specific effects. The authors found that awe and nurturant love or compassion lead to a systematic mode of information processing. The 398 participants were induced with specific emotions and then viewed either weak or strong arguments about a proposal to introduce comprehensive exams at their university. Afterward, participants indicated their attitude towards this proposal. The experiment was a 7 (emotion: anticipatory enthusiasm, amusement, attachment love, contentment, nurturant love, awe, and neutral/control) x 2 (argument strength: weak vs. strong) design. Awe and compassion produced results consistent with increased systematic processing, as both emotions led to the weak arguments to be significantly less persuasive in comparison with the control. The authors maintained that responsibility and vigilance associated with nurturant love increased systematic processing of the proposal. Similarly, positive emotion, such as awe, increased systematic, accommodative processing, leading to more careful scrutiny of persuasive messages.

2.6.4. The HSM and Mixed Emotional Appeals

Critically, HSM has not been directly linked with mixed emotional appeals to explain the direct impact of emotional blends on modes of information processing. However, indirectly, HSM supports the notion that a feeling of ambivalence, created by the experience of conflicting emotions (i.e., simultaneous positive and negative) may prompt more effortful information processing (Chaiken et al., 1989). HSM stipulates that ambivalence can decrease attitude confidence to a level below the sufficiency threshold (Chaiken et al., 1989). This, in turn, generates motivation for systematic processing due to the consumers' need to preserve a desired level of attitude confidence (Chaiken et al., 1989). Recent empirical evidence confirms that respondents who feel ambivalent tend to process information systematically when exposed to the advertising in an obesity and junk food consumption context (Yan, 2014). Similarly, ambivalence positively influenced the perceptions of message effectiveness in an anti-smoking context (Xiaoquan and Xiaomei, 2008). The influence of ambivalence on persuasion in the later study was explained through affective processing of the message. Moreover, enhancing feelings of ambivalence proved to be a useful intermediate stage in generating perceptions about anti-drug behavioural change amongst adolescents (Zhao and Cappella, 2008).

Empirical evidence outside of the HSM, which was discussed earlier in this literature review, suggests that activation of mixed emotional content (e.g., fear with another positive emotion such as joy, humour, or hope) can reduce consumers' defensive responses to the advertisement, produce positive thoughts about the brand, and is associated with a more positive appraisal of the behaviour alternative to the risk behaviour (Carrera et al., 2010, Mukherjee and Dubè, 2012, Spears et al., 2012). However, none of these studies explored the relationships between mixed emotional content on modes of information processing nor its impact on attitudes and help-seeking behavioural intentions. Recent empirical evidence accumulated outside HSM suggests that mixed or coactive mediated stimuli increase information processing, especially in comparison to stimuli incorporating only negative or only positive affective content (Lang et al., 2013, Wang et al., 2012). Lang (2006) argues that coactive messages simultaneously activate appetitive and aversive motivational systems in respondents exposed to the televised stimuli. Appetitive system is associated with positive affect and characterised by approach behaviours. In contrast, an aversive motivational system is characterised by avoidance behaviour and is associated

with negative affect. Lang et al. (2013) maintain that more resources are being allocated to the encoding of coactive, compared to singly positive or just negative, message content.

In conclusion, it appears that the relationship between a particular emotional blend, such as fear mixed with challenge, and modes of information processing has not been explored in the extant literature. Fear, when mixed with challenge, is an example of simultaneously elicited conflicting emotions, which can act as a conditioning stimulus on a systematic mode of information processing. Challenge keeps respondents open to message processing (Schneider, 2009), bolsters cognitive activity and engenders information intake (Lazarus et al., 1980), whereas fear serves the purpose of generating attention and accentuating self-protection (Ordoñana et al., 2009), driving consumers to process the advertisement systematically and in depth. (Petty and Cacioppo, 1986, Huber et al., 2014, Muñoz et al., 2013).

Another important variable to include in the quest to understand information processing of emotional appeals is consumer's *involvement with the advertisement*. The importance of consumer involvement is well established in marketing theory, particularly by the dual processing models such as the HSM or the Elaboration Likelihood Model (Petty and Cacioppo, 1986). Hence, the current literature review will discuss involvement with the advertisement in the next section.

2.6.5. Involvement with the Advertisement

Personal relevance and involvement with the advertisement have been found to be fundamental situational variables influencing message elaboration (Bagozzi, Gurhan-Canli and Priester, 2002). Involvement with the advertisement, or message involvement, is defined as “a motivational construct that influences consumers’ motivation to process information at the time of message exposure” (Baker and Lutz, 2000, p. 2). Moreover, message involvement exists as an individual state evoked by a particular message at a particular point of time (Laczniak, Muehling and Grossbart, 1989) and represents an individual variable that could indicate the amount of arousal evoked by advertising messages (Laczniak, Kempf and Muehling, 1999). Empirical findings support the influence of such a variable on message elaboration. For instance, Cauberghe et al. (2009) find that involvement with an advertisement can be an important variable between evoked

cognitions and emotions on the one hand, and message acceptance on the other hand. Researchers utilised a between-subject experimental design and tested 8 experimental conditions manipulating message threat level (high/low), context threat level (high/low), and contexts thematic congruency (congruent/non-congruent) in anti-speeding televised public service announcements. Results of their study (170 participants) revealed that message involvement has a direct effect on intentions and indirectly influences anti-speeding attitudes. The authors reported that message involvement is a full mediator between elicited fear, perceived threat and efficacy perception on the one hand, and attitude towards the message and behavioural intention to accept the message on the other.

Results of another study suggest that negative and positive framing effectiveness depends on both the receivers' message involvement level and the perceived risk associated with the advocated behaviour (Meyers-Levy and Maheswaran, 2004). Positive framing stresses either the benefits gained or the negative consequences avoided if one accepts a course of recommended actions in the message. Negatively framed message stresses either the negative consequences incurred or the benefits foregone if one does not accept recommended protective action. Messages in the later study contained risky health and product related information (i.e., heart disease, beef product, cholesterol role). This study utilised 2 (low or high risky implications) x 2 (low or high personal relevance) x 2 (positive or negative message framing) between-subject factorial design conducted with 147 participants. The authors reported that the level of risky consequences associated with the recommended behaviour interacted with the personal involvement of the message to determine the mode of message processing (i.e., systematic, heuristic, or both) that occurs. When personal involvement with the message was high, and combined with highly risky behavioural consequences, systematic processing was utilised and negatively framed messages were shown to be more persuasive. Under conditions of low personal relevance, and either high or low risky assumptions, heuristic processing was utilised by the message respondents and positively framed messages were more effective. Under conditions of high personal relevance and low risk assumptions, the message recipient engaged in both types of processing, and the message frame was shown to have no effect.

In a gambling context, individuals highly involved with the fear appeal experienced a stronger emotional response (elicited fear) and processed the information with greater depth in comparison to low involved gamblers (Munoz et al., 2010).

The authors utilised a 4 x 2 factorial design manipulating three threat levels (low, moderate, high and control condition) and two different sources (medical source or casino related provider). The results of the study revealed that both higher threat warnings and a medical source of warnings enhanced the depth of information processing among those highly involved with the advertisement (Munoz et al., 2010).

However, extant literature provides mixed support that high message involvement leads to deeper message processing. This effect is particularly significant when the information is threatening for the individual (Liberian and Chaiken, 1992b). These authors demonstrate that high caffeine consumption consumers defensively reject information linking fibrocystic disease to caffeine consumption, whereas those consuming low levels of caffeine were more persuaded by this information. Moreover, Lang (2006) found that a consumer's personal level of involvement with the message affects motivational activation, predominately overstimulating the aversive activation which causes withdrawal or message avoidance.

In conclusion, involvement with the advertisement appears to act as a moderator of the relationship between modes of message processing and attitude towards the advertisement. Importantly, the majority of the empirical studies cited addressed fear appeals, ignoring the moderating impact of involvement with an advertisement using challenge or fear mixed with challenge appeals. The current study attempts to address this gap in the extant knowledge.

Finally, consumer traits and personality characteristics are known to exert considerable influence on information processing (Baumeister, 1998). Indeed, insights from social psychology and personality research may cast some light on a-priori individual differences and their impact on message processing of emotional advertising.

2.7. Personality Factors and Information Processing of Emotional Appeals

Persuasive messages have the ability to evoke intricate emotional responses (Dillard and Peck, 2001). These emotional responses are internal, mental states that represent evaluative reactions to events, objects, and agents, and vary in intensity (LeDoux, 2012).

The potency and depth of an emotional response may depend on the a-priori level of emotional reactivity of a given consumer (De Meulenaer, De Pelsmacker and Dens, 2015). For example, De Meulenaer et al. (2015) confirmed that high anxiety individuals tend to experience more fear in relation to the communicated threat in the message than low-anxiety individuals. According to these authors, low-anxiety individuals tend to focus more on cognition, rather than emotional responses, hence, it is difficult to evoke fear in these consumers. Moreover, Kuo and Linehan (2009) argued that individuals may be biologically predisposed to experience more intense emotions and exhibit heightened emotional reactivity. This may, in turn, lead to habitual avoidance of, and superimposed efforts to inhibit, the experience of emotional arousal, especially if and when it is negative (Nestler and Egloff, 2010).

Numerous researchers suggested that personality factors not only explain certain defensive strategies used by individuals responding to health messages, but also influence actual motivation to elaborate on the message (Aarts, Custers and Holland, 2007, Raghunathan and Trope, 2002, Veling and Aarts, 2011). For example, substantial evidence exists that certain individual characteristics, such as neuroticism, are partially characterised by attentional, processing, or memory biases toward the content that causes distress to that individual (Aarts et al., 2007, Raghunathan and Trope, 2002, Veling and Aarts, 2011). Furthermore, the extant literature suggests that individuals with higher ratings of neuroticism exhibit biases in their emotional information processing of negative information (Chang, 2009, Schwerdtfeger and Derakshan, 2010). While some individuals are hyper-vigilant to threats and rapidly attend to, and focus their attention on, threatening stimuli, certain individuals, called repressors, have a dispositional tendency to cognitively avoid threats in their environment (Klein and Knäuper, 2009).

In conclusion, empirical evidence highlights the crucial role of individual consumer characteristics on information processing. This literature review must therefore focus on a-priori consumer characteristics previously not tested in the social marketing domain, but widely studied in the fields of compulsive consumption and personality research, as well as social and clinical psychology. Insights from social and clinical psychology may reveal how different a-priori consumer characteristics, such as tolerance for negative emotions, or tolerance for ambiguity, may influence or hinder message processing.

2.7.1. Distress Tolerance as an A-Priori Individual Consumer Characteristic: Insights from Clinical and Applied Social Psychology

Distress tolerance has been referred to as (1) the perceived capacity to withstand negative emotional and/or other aversive states (i.e., physical discomfort) and (2) the behavioural act of withstanding distressing internal states elicited by some type of stressor (Leyro, Zvolensky and Bernstein, 2010). Theoretically, distress tolerance may affect, and be affected by, a variety of processes involved in self-regulation, including attention, cognitive appraisals of distressing emotional and physical states, and emotional as well as behavioural responses to distress (Zvolensky, Vujanovic, Bernstein and Leyro, 2010). Zvolensky et al. (2010) proposed, and Bardeen, Fergus and Orcutt (2013) empirically confirmed, that distress tolerance is hierarchical in nature and composed of a global hierarchical experiential (in)tolerance construct and a number of specific lower-order, domain-specific dimensions (Figure 2.3).

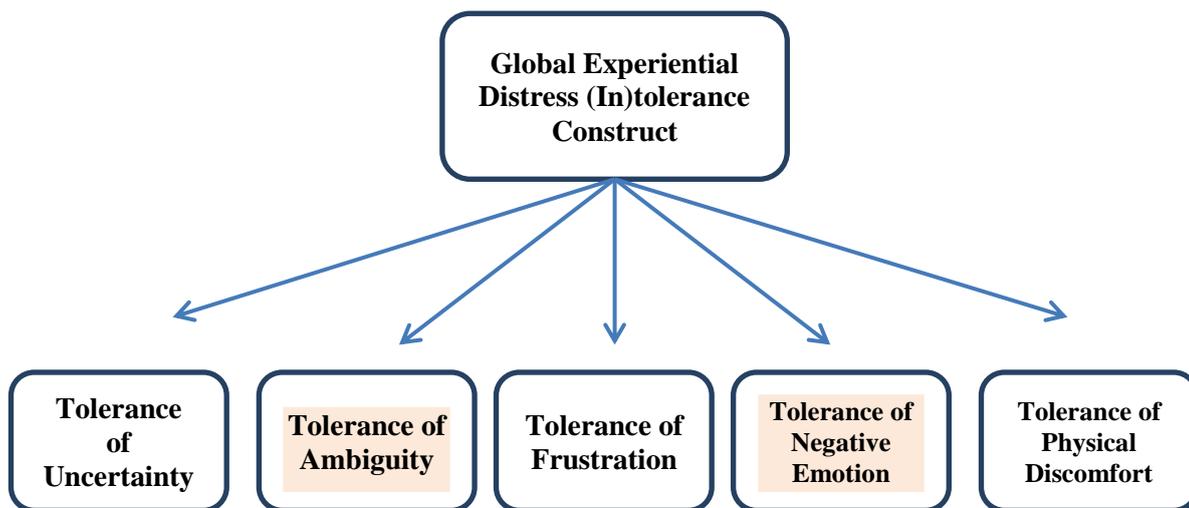


Figure 2.3: Global Experience Distress(In)Tolerance (Zvolensky et al., 2010)

Domain-specific dimension of distress tolerance, such as *tolerance of negative emotion*, reflects an individual's perceived capacity for tolerating negative emotions that result from aversive cognitive processes (Bardeen et al., 2013). Tolerance of negative emotions consists of consumer evaluations and expectations of experiencing negative emotional states in respect to tolerability and aversiveness, appraisal and acceptability, tendency to absorb attention and disrupt functioning, and regulation of emotions. Regulation of emotions captures the strength of action tendencies to either avoid or immediately soothe

this type of experience (Simons and Gaher, 2005). Furthermore, Simons and Gaher (2005) suggest that: (1) persons with low distress *tolerance* relate to distress as being unbearable and are unable to handle being distressed or upset; (2) a person's *appraisal* of being distressed reflects a lack of acceptance of distress, shamefulness of being distressed, and downgrading one's distress coping abilities if compared to others; (3) individuals with low distress tolerance *regulate* their negative emotions by avoiding them or rapidly soothing them if experienced; (4) if soothing of negative emotions is not successful, then individuals with low distress tolerance can be *absorbed* by the presence of distressing emotions and their functioning significantly disrupted by the experience of negative emotions. Hence, an individuals' ability to tolerate distress may influence both the types of strategies they use to manage affect, as well as moderating affective, regulatory functions on behaviour.

Lower levels of tolerance of negative emotional states are concurrently and prospectively related to greater risk for substance use disorders, coping oriented drug use, bulimic symptoms, and post-traumatic stress symptoms (Zvolensky et al., 2010). For example, it has been shown that distress tolerance predicts an individual's tendency to use drugs or alcohol (Howell, Leyro, Hogan, Buckner and Zvolensky, 2010, Daughters, Lejuez, Bornovalova, Kahler, Strong and Brown, 2005a, Brown, Palm, Strong, Lejuez, Kahler, Zvolensky, Hayes, Wilson and Gifford, 2008, Buckner, Keough and Schmidt, 2007), or to binge eat (Anestis, Selby, Fink and Joiner, 2007, Corstorphine, Mountford, Tomlinson, Waller and Meyer, 2007, Kozak and Fought, 2011) in response to negative affect. Anorexia nervosa, chronic fatigue syndrome (Hambrook, Oldershaw, Rimes, Schmidt, Tchanturia, Treasure, Richards and Chalder, 2011), and excessive buying problems (Rose and Segrist, 2011) are also associated with low distress tolerance. In addition, low distress tolerance has been linked to relapse following smoking cessation (Bernstein, Trafton, Ilgen and Zvolensky, 2008, Brown et al., 2008). Similarly, Daughters, Lejuez, Strong, Brown, Breen and Lesieur (2005b) investigated and empirically supported the theory that negative affect and one's ability to tolerate distress is associated with failure to quit gambling during an abstinence attempt.

There is no direct empirical evidence in the literature to suggest that tolerance of negative emotions impacts on information processing in the advertising domain. However, indirectly, Huang, Szabó and Han (2009) reported that individuals who tend to worry excessively also find the experience of emotional distress unacceptable and difficult to

tolerate, and tend to distract from, avoid, or suppress emotionally distressing material from consciousness. Such cognitive avoidance was operationalised in a study as reduced imagery and concreteness. Although, no significant relationship was found between tolerance for negative emotions and imagery, lower ability to tolerate negative emotions was significantly associated with higher concreteness during worrying. Huang et al. (2009) results are consistent with the proposition that chronic worriers may be motivated to engage in worrying partly because of their inability to tolerate the distress associated with accessing negative emotions (i.e. fear evoking information stored in long term memory) (Laguna, Ham, Hope and Bell, 2004, Freeston and Dugas, 1996).

In light of the role of distress tolerance in overt avoidance behaviours, such a construct may prove to be an important addition to our ability to explain cognitive avoidance associated with information processing for low distress tolerant message recipients. It is possible that individuals who negatively appraise and lack tolerance of emotional distress would be less motivated than others to engage in systematic information processing, due to their emotional regulation deficiencies. In order to reduce their exposure to emotionally distressing material stored in long term memory, individuals low in distress tolerance may inhibit information processing, contributing to the weaker, maladaptive attitude formation.

From the fear mixed with challenge emotional appeal perspective, lower order dimensions such as *tolerance of ambiguity* may be of particular interest and, as such, will be further discussed in greater detail.

2.7.2. Tolerance of Ambiguity

As previously mentioned in this literature review, anticipatory appraisals of potential threats and potential positive expectations in an ambiguous and stressful context evoke mixed emotions such as fear and challenge. Hence, as long as the consumer appraises the emotionally evocative stimulus as ambiguous by seeing possibilities of both positive and negative outcomes in the future, the individual can experience both fear and challenge emotions. Empirically, Folkman and Lazarus (1985) confirmed that the greater the ambiguity, the greater the probability that individuals would experience both challenge and fear at the same time.

Tolerance of ambiguity (TA) reflects individual differences in perceived tolerance of complicated, foreign, and/or vague situations or stimuli (Furnham and Ribchester, 1995). The TA construct has been significantly and concurrently related to behavioural rigidity and worry in the clinical psychology literature (Leyro et al., 2010). Individuals with relatively lower levels of TA are expected to react with greater emotional distress when faced with an ambiguous situation (Zvolensky et al., 2010) or stimuli (i.e., fear mixed with challenge) and would interpret such stimuli as a source of threat (Budner, 1962). Behavioural dispositions relating to TA include the acceptance of statements representing a rigid, black-white view of life, seeking for certainty, and remaining close to familiar characteristics of certain stimuli (Furnham and Ribchester, 1995). However, TA has received limited attention in the advertising domain and the moderating role of TA on the attitudes and help-seeking behavioural intentions of consumers is unknown.

Recently, Zhu, Xie and Xie (2012) explored the impact of a message source and TA on risk perception and purchase intention of earthquake insurance. Results of their experiment (108 participants) indicated a significant interaction of message source and TA on intention to buy earthquake insurance. Specifically, people with higher TA felt more risk and were more willing to buy earthquake insurance when the risk message was from publicity than from a word-of-mouth source; while people with lower TA demonstrated nearly the same risk perception and intention to buy insurance under both types of information source conditions. Furthermore, ambiguity intolerant individuals were mostly concerned with message content, thus exhibiting a systematic mode of information processing, while ambiguity tolerant individuals first process the message heuristically, by attending to the message source, and only then focus on the message content. The former study, however, did not comprise affective aspects of risk perception, and focused mostly on a rationalist/cognitive view of the risk perception measures.

Another study undertaken by Banks and De Pelsmacker (2014) revealed that TA plays an important role in developing attitudes and intentions regarding cross-cultural advertisements, with different types of probability markers for utilitarian and hedonic service types. Probability markers are specific words or phrases used to signal to which degree it is likely that a given claim or argument is true. TA was operationalised as a culture dependent individual difference variable reflecting the dimension of uncertainty avoidance.

The sample included 374 respondents from Croatia known to have higher tolerance for ambiguity and 331 respondents from Belgium known to have lower levels for ambiguity tolerance. The experimental design manipulated 2(service type: utilitarian-hedonic) x 2(degree of involvement: low-high) x 3 probability marker: hedge/pledge/no probability marker) between-subjects conditions. Each advertisement included one visual element (a photograph of a physical element of the service, i.e., a sandwich for the sandwich shop or a copy machine for a copy/print shop), the location of the service provider, and one verbal claim inserting either a hedge or a pledge. For example, the ad with hedges would include the following verbal claim: “Come to Tace Tee’s -Your taste buds might thank you!”; whereas the message with pledges included verbal claim such as “Come to Tace Tee’s -We guarantee your taste buds will thank you!” The ad without probability markers included verbal claim such as: “Tace Tee’s - Your taste buds will thank you!” The results revealed that involvement with the product/service and TA moderates the effects of probability markers in advertising on consumers’ brand attitude and purchase intention. For less-involving services (i.e., utilitarian) the higher the consumer’s TA, the more positive their brand attitude and purchase intentions for services advertised using hedges (i.e., probable, rather than absolute, truth of a claim) than for those with ads containing pledges (i.e., complete commitment to the truthfulness of the claim). Consequently, the higher the TA, the lower the brand attitude and purchase intention for services advertised using pledges, when compared to those with ads containing hedges. The authors concluded that TA is a potent moderator of consumers’ attitudes and intentions in a cross-cultural context. In particular, the use of pledges, which are least ambiguous and uncertain, should be used in advertisements of more utilitarian products/services in low TA countries (i.e., Belgium). Conversely, an advertisement for more hedonic, less-involving products or services should contain hedges, especially for high TA consumers (i.e., Croatia).

Hence, guided by the clinical psychology evidence (Leyro et al., 2010), and limited empirical evidence from the advertising domain, it would appear that an a-priori individual difference characteristic, such as TA, may moderate the relationship between attitudes towards the advertisement and help-seeking behavioural intentions, as consumers expect to react with greater emotional distress when faced with an ambiguous situation (Zvolensky et al., 2010) or stimuli (Budner, 1962, Furnham and Ribchester, 1995).

2.8. Summary: Identified Gaps in the Extant Literature and Proposed Conceptual Framework

Despite decades of research, understanding the cognitive and emotional processes underlying the effects of emotional appeals is still limited and several gaps remain in the emotional appeals literature. In the current study, these gaps were defined as relationships that either have yielded mixed empirical findings or have not yet been examined.

First, the current literature review detailed the existing controversy regarding the effectiveness of fear appeals on behavioural intentions in various social marketing contexts. Moreover, conflicting evidence exists in the extant literature as to whether evoked fear leads to a systematic mode of information processing or mostly contributes to cognitive avoidance by consumers. The current study addresses this empirical controversy by re-examining the role of evoked fear on modes of information processing in the gambling context.

Second, the current literature review identified contradicting empirical evidence within the HSM framework, specifically in relation to whether positive emotions engender predominately a heuristic mode of information processing. Critically, general reference to positive affect in the literature overlooks the differential impact that emotions within the same valence can have on information processing. Recent empirical evidence suggests that positive emotions, as discrete categories of the same valence, influence judgements and information processing strategies in different ways. Interestingly, some positive emotions (i.e., nurturant love, compassion, and feeling of care) have been shown to prompt a systematic mode of information processing in consumers. However, whether hopefulness, inspiration, eagerness, and determination (which accompany the positive affective state of challenge) would influence a systematic mode of information processing in challenge appeals remains unexplored in the advertising domain.

Third, the current literature review revealed that much less focus has been placed on explaining the persuasive process of mixed emotions. The concept of mixed fear and challenge appeals is nearly absent in social marketing advertisements and warrants further investigation.

Recent empirical evidence from positive psychology (Larsen, McGraw and Cacioppo, 2001, Larsen et al., 2003, Larsen and McGraw, 2011) and televised advertising (Lang et al., 2013, Wang et al., 2012) suggest that mixed emotional content enhances information processing. However, whether a specific blend of fear mixed with challenge acts as a conditioning stimulus for a systematic mode of information processing remains unknown. Critically, HSM has not been linked with mixed emotional appeals in order to explain the impact of emotional blends on modes and depth of information processing, attitudes, and help-seeking behavioural-based intentions.

Fourth, a-priori consumer characteristics, such as distress tolerance of negative emotions (Simons and Gaher, 2005) and tolerance of ambiguity (Leyro, Bernstein, Vujanovic, McLeish and Zvolensky, 2011, Zvolensky et al., 2010), remain unexplored for their potential moderating effect on consumers' systematic mode of information processing, attitude towards advertising, and behavioural intentions. These individual consumer characteristics are entrenched in applied, social, or clinical psychology research, but unexplored in the advertising domain.

Lastly, the moderating effects of consumer's involvement with the advertisement, self-accountability, and response efficacy on a systematic mode and depth of information processing have not been previously investigated in emotional advertising, such as challenge appeals or fear mixed with challenge. Additionally, the moderating role of involvement with the advertisement in fear appeals produced conflicting evidence (Munoz et al., 2010, Liberman and Chaiken, 1992b), and need to be re-examined in the gambling context.

The current study addresses these identified gaps. Together, the RPMM of fear appeals (Arthur and Quester, 2004), the CPHTE (Lazarus et al., 1980) focused on fear and challenge, and the HSM (Eagly and Chaiken, 1993) examining information processing as antecedent of attitude formation, provide the theoretical framework for the current research to investigate these gaps in the advertising and social marketing domains. Figure 2.4 outlines new, gap-related relationships to be tested and graphically depicts the proposed conceptual model.

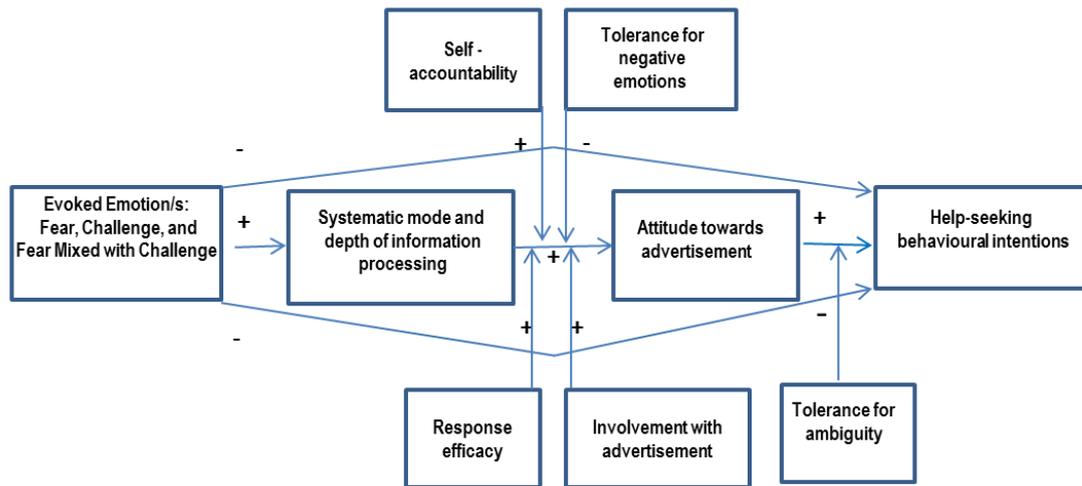


Figure 2.4: Proposed Conceptual Model

In conclusion, this chapter has focused on several theories in order to understand the influence of emotional appeals on consumers’ message processing, attitude towards advertisement, and help-seeking behavioural intentions. This chapter has reviewed the extant literature with a particular focus on the RPMM, CPHTE, and the HSM theoretical frameworks, and has highlighted existing discrepancies and empirical controversies that warrant further investigation. Moreover, this chapter has discussed the literature on a-priori individual consumer characteristics, originating from the psychology domain, to be incorporated in the proposed framework. Importantly, chapter two has outlined the gaps in our knowledge regarding fear, challenge, and fear mixed with challenge emotional advertising appeals and their impact on message processing. Chapter two was summarised through a comprehensive, yet parsimonious conceptual framework, which emphasises the cognitive and emotional influences of evoked fear, challenge, and fear mixed with challenge, on consumers’ attitudes and help-seeking behavioural intentions through the mediating variables of systematic mode and depth of information processing, as well as attitudes towards the advertisement. Next, chapter three discusses the conceptual model for this study and develops our hypotheses in greater details, describing the proposed research design and research context for the study.

Chapter 3: Conceptual Framework, Hypothesis Development, and Research Design for the Study

3.1. Introduction

Chapter two identified extant gaps in our current knowledge about the persuasive impact of emotion eliciting advertising (i.e., appeals eliciting fear, challenge, fear mixed with challenge) on consumer information processing, attitudes and behavioral intentions. Furthermore, chapter two stressed out the role of a-priori individual consumer differences such as tolerance for negative emotions and tolerance for ambiguity, self-accountability, response efficacy, and involvement with the advertisement as potential moderators between systematic mode/depth of information processing, attitudes towards advertisement and help-seeking behavioral intentions. Lastly, chapter two provided a conceptual model outlining possible relationships between these variables. In chapter three, the hypotheses tested in the research are formalised and summarised. Evolving from this theoretical foundation, the rationalisation for the research design, adopted stages, and study context are discussed.

3.2. Research Framework

Prior to finalising hypotheses and determining the methodology it is important to outline the key theoretical aspects and formalise, in broad terms, the overriding research questions.

3.2.1. Testing the Power of Emotions to Influence Help-Seeking Behavioral Intentions through Mediating Variables of Systematic Mode and Depth of Information Processing and Attitudes towards Advertisement

The majority of appeals used in advertising aim to generate an emotional response from the consumer. Emotional responses often are “the gatekeepers” for cognitive and behavioral reactions and considered as a crucial factor in the advertising (Poels and Dewitte 2006). Hence, emotional and cognitive processes engaged during message exposure lay the foundation for any subsequent persuasive impact on consumers (Yoon, 2015a). These emotional and cognitive processes are internal, mental states that represent evaluative reactions to events, objects and agents and vary in intensity (LeDoux, 2012).

It is established in the literature that consumers use emotions as tools for efficient information processing, enabling them to engage in meaningful deliberation, judgement, reasoning, and decision making (Marcus et al., 2011, Blanchette and Richards, 2010). Elaborative processing, triggered by emotions, involves generating one's own thoughts in response to the information to which one is exposed in the advertising message.

Extant literature based on the Heuristic Systematic Model provides controversial empirical evidence of discrete negative emotions (i.e., fear) and various positive emotions on modes of information processing showing both facilitating and impairing effects. However, the role of mixed emotions has not been yet addressed within such a framework. Elsewhere, empirical evidence exists that mixed emotions (i.e., co-elicited positive and negative emotions) can act as a conditioning stimulus, prompting information processing and stimulating action in consumers (Lang et al., 2013). Previous studies also show consistent empirical support that information processing is crucial to attitude formation and that attitudes are actually formed, or modified, as consumers gain information about attitude objects (i.e. any targets of judgment, including people, places, or messages)(Chaiken, 1980, Eagly and Chaiken, 1993). The literature also confirms that depth of processing is positively associated with systematic processing and is known to impact on the strength of risk-related evaluations, risk related attitudes and, consequently, on risk-related decisions and behaviors (Griffin et al., 2002, Griffin et al., 2004). Moreover, it is established that when a message is processed systematically, attitude is strengthened and tends to be more permanent. Conversely, attitudes based on heuristic processing are less stable and with little subsequent impact on consumer intentions and behaviours (Griffin et al., 2002, Chaiken et al., 1989, Chaiken and Maheswaran, 1994). This research seeks to reveal how a single dominant emotion such as fear or challenge alone compares to the previously untested effects of the mixed emotions of challenge and fear impact consumers' help-seeking behavioral intentions, through the mediating variables of systematic processing mode and depth of information processing and attitudes towards advertisement.

3.2.2. Testing the Moderating Influence of Individual Consumer Characteristics on Information Processing

Research has shown that personality factors not only explain certain defensive strategies used by individuals responding to health messages, but also influence their actual

motivation to elaborate on the message (Aarts et al., 2007, Raghunathan and Trope, 2002, Veling and Aarts, 2011). In the clinical psychology literature, tolerance of ambiguity (TA) has been significantly and concurrently related to behavioural rigidity and worry (Leyro et al., 2010), prompting respondents low on TA react with greater emotional distress when faced with an ambiguous situation or stimulus (Zvolensky et al., 2010). Similarly, clinical psychology literature has shown that tolerance of negative emotions (TNE) encompasses cognitive and affective strategies aimed at the reduction of aversive private experiences such as thought and emotional suppression (Huang et al., 2009).

Conversely, empirical findings support the influence of other individual consumer characteristic such as involvement with the advertisement to be a fundamental situational variable that influences message elaboration (Bagozzi et al., 2002). Additionally, extant literature has shown that accountability encourages not only extensive and effortful information processing, but also self-critical awareness of one's evaluative processes (Thompson et al., 1994, Tetlock and Kim, 1987, Skitka et al., 2000). Finally, the limited empirical evidence in fear advertising appeal domain suggests that response efficacy is linked with positive attitude change (Munoz et al. 2010). Specifically, this study will seek to answer the following research questions

1. Which evoked emotion or combination of emotions such as fear, challenge, or fear mixed with challenge will, ultimately, have the greater impact on consumers' help-seeking behavioral intentions?

2. Do systematic mode/depth of information processing and attitude towards advertisement mediate the relationship between elicited emotions (fear, challenge, fear mixed with challenge) and help-seeking behavioral intentions?

3.
 - a) Do individual consumer characteristics such as involvement with advertisement, self-accountability, and response efficacy moderate the relationship between systematic mode/ depth of information processing and attitude towards the advertisement irrespective of felt emotion/s?

- b) Do a-priori individual difference characteristics such as tolerance of ambiguity moderate the relationship between attitude towards the advertisement and behavioral intentions among the respondents who predominately felt fear mixed with challenge? Similarly, does tolerance of negative emotions moderate the relationship between systematic mode/depth of information processing and attitude towards the advertisement among the respondents who predominately felt fear?

3.3. Development of Causal Model and Hypothesis

The proposed conceptual model (Figure 3.1) highlights the identified gaps within the literature and articulates the proposed relationships between the specified constructs based on the theoretical frameworks of the Revised Protection Motivation Model (RPMM) (Arthur and Quester, 2004), the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980) and the Heuristic Systematic Model (HSM) (Eagly and Chaiken, 1993). The conceptual model maps out the essential emotional and cognitive drivers of message processing and interconnects them with the ultimate dependent variable – consumers’ help-seeking behavioral intentions (Ajzen, 1988).

The model goes beyond our current understating where previous studies have only focused on testing the effects of discrete emotions as it combines fear, challenge and fear mixed with challenge. Thus the model will seek to specify which emotion (e.g. fear, challenge) or a combination of emotions (e.g. fear mixed with challenge) will have the strongest impact on help-seeking behavioral intentions in consumers. Fear is defined in the proposed model as a foreboding emotional response to a potential and relevant threat and challenge is adopted as an ambiguous positive state, with emotional implications of determination, eagerness, inspiration and hopefulness (Lazarus, 1991). Mixed emotions are emotional states defined by both positive and negative emotions experienced jointly (Aaker et al. 2008; Larsen and McGraw 2011) or in close temporal proximity (Lazarus 1991).

The proposed conceptual framework (Figure 3.1) involves mediational investigation, providing a greater understanding and stronger inferences to be drawn from the social marketing communication process based on emotional advertisement. In particular, the conceptual model specifies that the mediating role of cognitive responses, integrated as

modes and depth of information processing and attitudes towards advertisement, permits an understanding of the sequence of effects that leads to help-seeking behavioral intention in consumers. The proposed conceptual model adopts the following definition of systematic mode of processing - the careful and extensive evaluation of information (Eagly and Chaiken, 1993). Depth of information processing is defined as the degree to which people actively consider salient beliefs about a topic (Griffin et al., 2002). The systematic mode and depth of information processing, as antecedents of attitude, will positively influence attitudes toward the advertisement due to individuals' accessing, weighing, and actively considering a greater number of relevant behavioral beliefs (Griffin et al., 2002, Ajzen and Sexton, 1999). Attitudes toward an advertisement reflect the cognitive change associated with the persuasiveness of the message (Reichert et al. 2001), predisposing consumers to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion (Lutz, 1985). In turn, attitudes toward the advertisement are expected to positively impact help-seeking behavioural intentions.

Importantly, the present model (Figure 3.1) also investigates the moderating roles of various a-priori individual consumer characteristics such as distress tolerance on systematic mode and depth of processing (i.e. tolerance of negative emotions) and attitude towards advertisement and behavioral intentions (i.e. tolerance of ambiguity). In this research the definition of tolerance of ambiguity is the individual degree of acceptance of the cognitive challenges associated with ambiguity (i.e., complicated, and/or vague situations or stimuli)(Furnham and Ribchester, 1995). Ambiguity intolerance is conceptualised as an individual tendency to perceive and interpret ambiguous situations as source of threat (Budner, 1962). Tolerance of negative emotions is defined as the perceived capacity to withstand internal distress caused by negative emotional states (Simons and Gaher, 2005).

Moreover, it is predicted that consumers' involvement with advertisement, self-accountability, and response efficacy will act as a potential moderators on the relationship between systematic mode and depth of information processing and attitude towards the advertisement. Involvement with advertisement is defined as an individual's state evoked by a particular message at a particular point of time (Laczniak et al., 1989) that influences consumers' motivation to process information at the time of message exposure (Baker and Lutz, 2000).

Response efficacy is defined as the extent to which people believe a recommended response effectively deters or alleviates a health threat (Witte, 1992). Finally, self-accountability is defined as the degree to which oneself is responsible for the situation (Smith and Kirby, 2011).

Figure 3.1 illustrates the predicted relationship between evoked emotions and help-seeking behavioral intentions, including mediators - systematic mode and depth of processing and attitude towards advertisement and moderators - self-accountability, response efficacy, involvement with advertisement, tolerance of ambiguity, and tolerance of negative emotions.

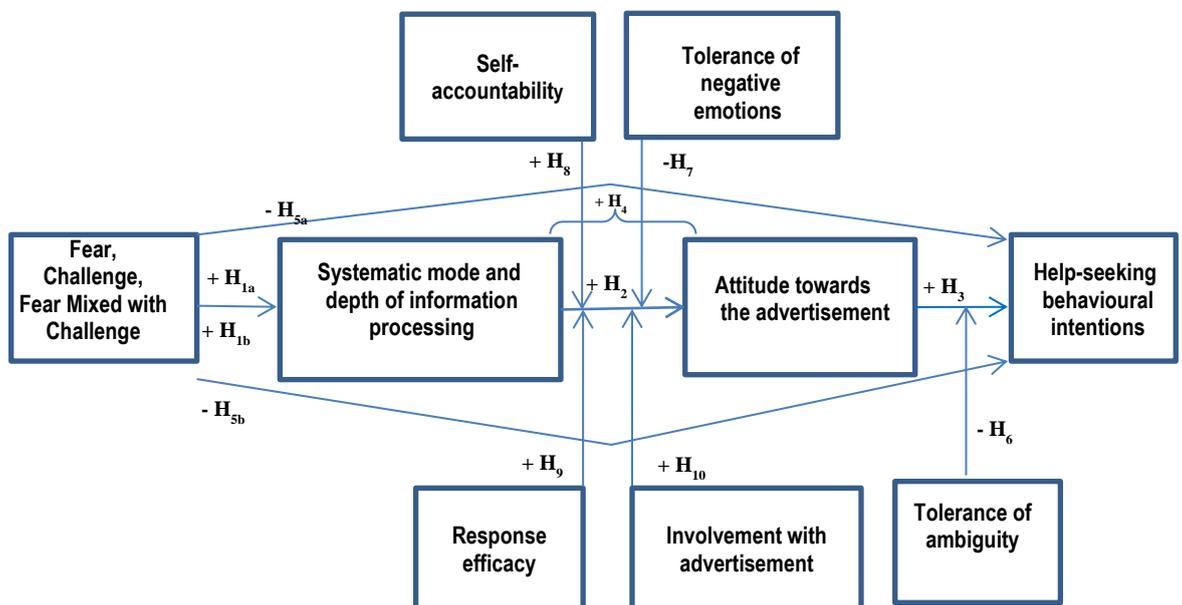


Figure 3.1: Proposed Conceptual Framework with Hypothesis

3.3.1. Hypothesis

A fearful emotional response can generate a higher degree of attention from the viewer (Ordoñana et al., 2009) and can act as a motivator to induce recipients to engage in intensive and thoughtful message processing (Gleicher and Petty, 1992, Liberman and Chaiken, 1992a, Muñoz et al., 2013). Likewise, consumers experiencing positive affective states can also process information systematically; however, it takes more time and effort (Petty et al. 2004). Conversely, challenge appeals prompt respondents to be open to message processing (Schneider et al., 2009) and leads to expansiveness, free-flowing use of intellectual resources and an eager, joyful state of mind which motivates respondents to engage in ongoing mental operations more “confidently and thoroughly” (Lazarus, 1991,

p.420). As an ambiguous positive state, feeling challenged is accompanied by excitement, hope, eagerness, and joy, which keep people “alert and vigilant to important information inputs” in the encounter/stimulus (Lazarus et al., 1980, p. 206). Emotional states defined by both positive and negative emotions experienced jointly (i.e., mixed emotions) have been found to be central to one’s ability to focus on stressful information long enough to find adaptive solutions (Larsen et al 2003), enhancing consumers’ attention, cognitive resource allocation, information encoding and storage (Wang et al., 2012). Therefore:

H₁ Feelings of fear (H_{1a}), challenge (H_{1b}), and fear (H_{1a}) mixed with challenge (H_{1b}) will have a significantly positive influence on systematic mode and depth of information processing.

The Heuristic-Systematic Model (HSM) predicts that a systematic mode of information processing positively influences attitudes (Eagly and Chaiken, 1993). When a message is processed systematically, the currently held attitude is strengthened (Averbeck et al., 2011). Moreover, systematic processing is positively related to the degree to which people actively consider salient beliefs (or depth of processing) about the risk information encoded in the message (Griffin et al., 2002). Systematically processed information forms attitudes that “are more likely to come to mind faster, persist over a longer period of time, and resist counter-persuasive efforts” (Bagozzi et al., 2002, p.120). Therefore:

H₂ A systematic mode and depth of information processing significantly and positively influence attitudes towards an advertisement.

Attitude is assumed to be a mediating variable for behavioral change (Smith and Fabrigar, 2000). Empirically, attitudes are causally linked to behavioral intentions (Arthur and Quester 2004; Munoz et al. 2010; Terblanche-Smit and Terblanche 2011). Therefore:

H₃ Attitude towards an advertisement significantly and positively influences help-seeking behavioral intentions.

H₄ Both, systematic mode/depth of information processing and attitude toward an advertisement mediate the impact of evoked emotions (e.g. fear, challenge, fear mixed with challenge) on help-seeking behavioral intentions.

When the risk portrayed in the advertisement is perceived as irrelevant, consumers rely on heuristic processing when evaluating the message (de Hoog et al. 2005). Additionally, when they lack the motivation, or the ability to process the information in the message, they engage in a non-thoughtful, heuristic mode of processing resulting in little impact on their behavioural intentions (Eagly and Chaiken 1993). Therefore:

H₅ Regardless of evoked emotion/s (i.e., (H_{5a}) for fear or (H_{5b}) for challenge appeal, or similarly for fear (H_{5a}) mixed with challenge (H_{5b}) appeal) no significant impact on behavioral intentions will result if the message is processed heuristically.

Consumers tend to appraise future possibilities for both negative and positive outcomes of their behaviour as uncertain and ambiguous (Folkman and Lazarus, 1985). The greater the ambiguity, the greater the probability that respondents would experience mixed fear and challenge simultaneously (Folkman and Lazarus, 1985). For example, future negative outcomes of excessive gambling (e.g. substantial financial loss or family separation portrayed in the message) would evoke fear and future positive outcomes of help-seeking (i.e., social approval and increased self-esteem) would elicit hopefulness and determination associated with challenge, resulting in ambiguous emotional experience. Consumers with low tolerance of ambiguity expect to react with greater emotional distress when faced with such an ambiguous situation (Zvolensky et al., 2010) or stimuli (e.g. fear mixed with challenge) and would interpret such stimulus as source of threat (Budner, 1962) inhibiting help-seeking behavioural intentions (Daughters et al. 2005). Therefore:

H₆ A significant interaction between tolerance of ambiguity and attitude towards advertisement reduce the effect between attitude towards advertisement and behavioral intentions for respondents who felt fear mixed with challenge after the advertisement exposure.

Although, there is no direct evidence to suggest that individuals with a low level of tolerance of negative emotions would suppress a systematic mode/ depth of information processing. Indeed the literature shows that such moderating effects are expected. For example, Huang et al. 2009 found that individuals who have a stable tendency to worry excessively, find the experience of emotional distress unacceptable and difficult to tolerate

and consumers low in tolerance of negative emotions tend to distract from, avoid, or suppress such material (i.e., fear appeals) from consciousness (Freeston and Dugas, 1996, Laguna et al., 2004). Therefore:

H₇ A significant interaction between distress tolerance of negative emotions (i.e., fear) and systematic mode/depth of information processing reduce the effect between systematic mode/depth of information processing and attitude towards advertisement for respondents who felt fear after the advertisement exposure

Conversely, heightened involvement with an advertisement increases consumers' motivation to engage in the message and enhance the systematic mode and depth of message processing (Maheswaran and Meyers-Levy, 1990, Meyers-Levy and Maheswaran, 2004, Munoz et al., 2010). Therefore:

H₈ Regardless of evoked emotion/s significant interaction between involvement with the advertisement and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards advertisement.

Self-accountability enhances message scrutiny (Greenwald, 1982) and accountability (i.e., the expectation that an individual will need to explain their attitude publicly) generally increases cognitive effort, compelling consumers to develop more complex, sophisticated and integrative attitude positions (Tetlock, 1983, Skitka et al., 2000, Lion and Meertens, 2001, Chaiken et al., 1989). Moreover, more accountable respondents process information more thoroughly than those less so (Chaiken et al., 1989). Also, respondents who feel accountable for their attitudes attempt to understand and process the arguments and evidence in a persuasive message in greater detail when deciding what position to take (Chaiken et al., 1989). Conversely, respondents who do not feel accountable for their attitudes rely on heuristics such as the 'likeability' of the message source (Chaiken et al., 1989). Therefore:

H₉ Regardless of evoked emotion/s significant interaction between self-accountability and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards an advertisement.

Response efficacy refers to the communicator's manner of behaviour, and self-efficacy signifies the evaluation of the respondent's own capacity to be able to effectively adopt the recommended response (Arthur and Quester 2004; Witte 1992). Individuals high in response efficacy tend to assess the recommended solution or coping alternative and conclude its perceived effectiveness (Rogers, 1975), strengthening the information processing and attitude link. In the problem gambling context, response efficacy was found to be positively linked with the depth of information processing and positive attitude change towards help seeking (Munoz et al., 2010). Therefore:

H₁₀ Regardless of evoked emotion/s significant interaction between response efficacy and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards advertisement.

Overall, the empirical evidence related to the impact of fear advertising appeals on behavioural intentions (in various health contexts such as smoking, problem gambling, HIV/AIDS) ranges from highly positive, if combined with high efficacy (Hammond, 2007, Racela and Thourunroje, 2012, Borland et al., 2009, Schmitt and Blass, 2008, Palmgreen et al., 2007, Wauters et al., 2011, Muñoz et al., 2013) to inhibiting (Wolburg, 2006, Kessels et al., 2010, Brown and Smith, 2007, Nielsen and Shapiro, 2009, Slavin, Batrouney and Murphy, 2007, Muthusamy et al., 2009). However, fear mixed with challenge results in stronger behavioural intentions and behaviour compliance (i.e., in skin cancer context) in comparison to fear or challenge alone (Passyn and Sujana, 2006). Therefore:

H₁₁ Evoked feelings of fear mixed with challenge will, ultimately, have a significantly more positive impact on consumers' help-seeking behavioral intentions in comparison to fear-only or challenge-only elicited emotions.

Table 3.1 summarizes the hypothesis to be tested within the new conceptual model.

Table 3.1: Summary of Hypostatized Relationships

<p>H₁. Feelings of fear (H_{1a}), challenge (H_{1b}), and fear (H_{1a}) mixed with challenge (H_{1b}) will have a significantly positive influence on systematic mode and depth of information processing.</p>
<p>H₂. A systematic mode and depth of information processing significantly and positively influence attitudes towards an advertisement.</p>
<p>H₃ Attitude towards an advertisement significantly and positively influences help-seeking behavioral intentions.</p>
<p>H₄ Both, systematic mode/depth of information processing and attitude toward an advertisement mediate the impact of evoked emotions (i.e., fear, challenge, fear mixed with challenge) on help-seeking behavioral intentions.</p>
<p>H₅. Regardless of evoked emotion/s (i.e., (H_{5a}) for fear or (H_{5b}) for challenge appeal, or similarly for fear (H_{5a}) mixed with challenge (H_{5b}) appeal) no significant impact on behavioral intentions will result if the message is processed heuristically.</p>
<p>H₆ A significant interaction between tolerance of ambiguity and attitude towards advertisement significantly reduce the effect between attitude towards the advertisement and help-seeking behavioural intentions for respondents who felt predominately fear mixed with challenge.</p>
<p>H₇ A significant interaction between distress tolerance for negative emotions (i.e. fear) and systematic mode/depth of information processing significantly reduce the effect between systematic mode/depth of information processing and attitude towards advertisement for respondents who felt predominately fear.</p>
<p>H₈ Regardless of elicited emotion/s, significant interaction between self-accountability and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards the advertisement</p>
<p>H₉ Regardless of elicited emotion/s, significant interaction between response efficacy and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards the advertisement.</p>
<p>H₁₀. Regardless of elicited emotion/s, significant interaction between involvement with the advertisement and systematic mode/depth of information processing significantly strengthens the effect between systematic mode/depth of information processing and attitude towards the advertisement.</p>
<p>H₁₁ Evoked feelings of fear mixed with challenge will, ultimately, have a significantly more positive impact on consumers' help-seeking behavioral intentions in comparison to fear-only or challenge-only elicited emotions</p>

3.4. Research Paradigm

The purpose of this research is to investigate the ability of various emotions such as fear, challenge, and fear mixed with challenge to impact on help-seeking behavioral intentions through the mediating variables of systematic mode and depth of information processing, and attitudes by testing the empirical model shown in chapter two and chapter three (Figure 3.1). Further, various individual consumer characteristics are explored as potential moderators of the relationship between systematic mode and depth of information processing (i.e. involvement with advertisement, self - accountability, response efficacy and tolerance of negative emotions) and attitude and behavioral intentions (i.e. tolerance of ambiguity).

This research adopts a mixed methodology approach and is comprised of both qualitative and quantitative stages. Such synthesis of research paradigms, both *interpretist* and *positivist*, is an accepted method of data triangulation to enhance validity (Brannen, 2003). The outlined combination of qualitative and quantitative methods in the current research resembles the *embedded research design* as categorised by Creswell and Clark (2007) in which qualitative data collection stage is considered as supportive in regards to the quantitative data collection stage, designed to empirically test the proposed model. The research design of this study is schematically outlined in the figure 3.2

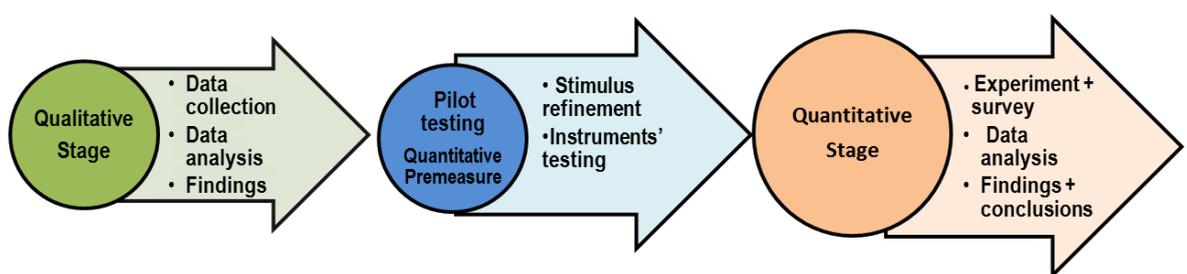


Figure 3.2: Research Design of This Study

The first research stage is qualitative and aims to fulfill several research objectives. The purpose of this qualitative study is to examine the views/ attitudes and opinions of at-risk gamblers in developing emotional advertising stimuli to promote help-seeking behavior (professional problem gambling service). The main objective of this research phase is qualitative validation of the proposed conceptual model in a thematic manner (Boyatzis,

1998), to evaluate the face validity of the model's constructs. Second, qualitative data helps to identify relevant threats and challenge-associated perceived benefits derived from help-seeking, to be integrated into fear mixed with challenge stimuli that will be relevant for the Australian consumers.

Focus groups are chosen to be the method of data generation for the qualitative stage. The appeal of focus groups for market researchers lies in the potential of group interaction to provide researchers with data that demonstrates participants' responses and opinions about the phenomenon of interest (Stewart, Shamdasani and Rook, 2007). Importantly, focus groups may be effectively utilised to study sensitive topics (Farquhar and Das, 1999, Bagozzi, Sekerka, Hill and Sguera, 2013). For example, a recent study by Calderwood and Wellington (2013) utilised focus group discussions with gambling-afflicted consumers stressing the importance of participatory research in the advertising stimulus development phase to minimise the chances of disseminating stigma associated with problem gambling. According to the authors, focus groups were the ideal choice because they allow for participants to engage in meaningful and creative discussion through exchanging and debating ideas. Advertising stimuli professionally designed for the study were further refined based on respondents feedback as disregarding participants perceptions, opinions and beliefs may result in message misinterpretation and non-compliance (Carter et al., 2011, Calderwood and Wellington, 2013). Hence, the focus group discussions deem relevant and sufficient to adequately address the qualitative stage objectives of the current research and expected to provide supportive data, relevant for the quantitative stage of a project.

Quantitative data collection and measurement will be undertaken in the tradition of *objectivism* and *positivism* with the primary objective to test the proposed theoretical model. The classic examples of positivist research methodology include quantitative approaches, such as experiments, which offer stronger tests of causal relationships; or surveys, which allow to capture self-reported beliefs or behaviors of respondents as a reflection of social reality (Neuman, 2011). The main objective of the quantitative stage is to investigate the effects of various emotions on systematic mode and depth of information processing, attitude and help-seeking behavioral intentions of consumers. The second objective of the quantitative phase is to explore moderating effects of a-priori individual

differences on systematic mode and depth of information processing, attitude and behavioral intention.

Some experiments involve survey sampling methods executed outside the labs and often in a web-based format, where experimental subjects are randomly assigned to conditions or variations of the independent variables in order to observe their effect on a dependent variable (Mutz, 2011). Such hybrid methodology enables to rule out potentially spurious relationships, and can help advance theory in research areas where selection or order effects biases make observational studies relatively unproductive (Mutz, 2011). The above advantages were found sufficient to justify the adoption of a web-based quasi-experiment design with survey sampling methods for this research project. Research design of the current study is discussed in greater details in chapter four (qualitative research stage) and chapter six (quantitative stage).

3.5. Justification for the Model

Several criterias outlined by Troye and Howell (2004) enable to judge the adequacy of conceptual frameworks in the marketing research domain. Theoretical adequacy criteria suggests that theory incorporated into conceptual model should allow explanation and prediction of the phenomena it addresses and should lend itself to empirical tests. Methodological adequacy should enable to test complex relationships within the model with proper tests, allowing a sufficient description of the phenomenon that is investigated.

Despite the fact that the theoretical foundations of the current model are complex, uniting the Revised Protection Motivation Model (RPMM) (Arthur and Quester, 2004), the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980) and the Heuristic Systematic Model (HSM) (Eagly and Chaiken, 1993) theories, none of the integrated theoretical concepts contradicts or competes with each other. New conceptual model lends itself to investigate the phenomenon of interest within both *interpretist* and *positivist* research paradigms - an accepted method of data triangulation to enhance validity (Brannen, 2003, Creswell and Clark, 2007). Furthermore, the proposed model address the identified gaps in the extant literature described in chapter 2 and adds to the research that is focused on the multiple roles of emotions in information processing, complimenting the work on fear appeals, challenge appeals, and mixed emotional appeals (i.e., fear mixed with challenge) in social marketing communication.

The proposed model incorporates relevant, yet desperate areas of knowledge from the fields of psychology and personality research, and examines a-priori individual differences such as distress tolerance of negative emotions and tolerance of ambiguity, involvement with advertisement, self-accountability and response efficacy, thus contributing to the extant literature examining the roles of individual consumer characteristics on message processing in the emotional advertising domain.

3.6. Adopted Measurement Instruments and Stimuli Used for the Study

Chapter five and six provide detailed description of measurement instruments and discusses their validity and reliability. In this chapter, only the origin of adopted measurement instruments is briefly reported. In particular, based on prior literature, challenge measure was adopted from Folkman and Lazarus (1985) and measurement instrument for fear was adopted from Dillard and Peck (2001). Systematic mode and depth of information processing measures were retrieved from Griffin et al. 2002 study; attitude toward advertisement measure from Munoz et al. (2010) and behavioural intention measure was adapted from Wong and Cappella (2009). Moderator variables such as Tolerance of negative emotions (TNE) was measured by the Distress Tolerance Scale (DTS) adapted from Simons and Gaher (2005) and Tolerance of ambiguity (TA) was measured by the Multiple Stimulus Types Ambiguity Tolerance Scale-II (MSTAT-II) (McLain, 2009). Furthermore, response efficacy measure was adapted from Feng and Burleson (2008); involvement with the advertisement from Laczniak et al. (1999); and self-accountability measurement instrument was adopted from Passyn and Sujana (2006).

3.6.1. Fear Stimuli

Stimuli used for the study were designed to elicit a range of emotions in consumers such as fear, challenge and fear mixed with challenge. Development of fear stimulus was theoretically based on the revised protection motivation model (RPMM) (Arthur and Quester, 2004). The RPMM (Arthur and Quester, 2004) is grounded on the argument that cognitive appraisals of important threat engage assessment of perceived severity and perceived susceptibility and elicit fear in respondents. The perceived susceptibility refers to how vulnerable or at risk individuals regard themselves given the specific issue depicted in the shown advertisement (Block and Keller, 1995, Cauberghe et al., 2009, Arthur and Quester, 2004).

Preliminary, the threats themes portrayed in the designed advertising stimuli were derived from Hodgins, Makarchuk, el-Guebaly and Peden (2002) study, which assessed internal and external reasons to quit gambling among a sample of Canadian respondents. The vast majority of respondents in Hodgins et al. (2002) study reported financial and emotional burden as important reasons for quitting gambling. Family problems and hitting "the rock bottom" were also frequently endorsed reasons for help seeking among these study participants. These internal influences were advised as the focus of public awareness campaigns that aim to encourage problem gamblers to contemplate changing their behaviour. The fear stimuli were further revised and adjusted based on the qualitative insights from the focus group discussions with South Australian consumers. These adjustments are described in greater details in chapter four.

3.6.2. Challenge Stimuli

The core relational theme of challenge-hope is potential for success and effortful optimism with the high (problem-focused) coping potential (Smith et al., 1993). Challenge stimuli designed for this study include cues of optimism, combat, and personification of help seeking benefits as suggested by the previous research (Smith, 2007). The final version of adjusted challenge stimulus is described in greater details in chapter four.

3.6.3. Fear Mixed with Challenge Stimuli

The development of fear mixed with challenge stimuli was based on the Cognitive Phenomenological Theory of Emotions (CHPTE) (Lazarus et al., 1980). According to the CHPTE, if stressful encounter (i.e., threat portrayed in the stimulus) centres not only on the possibility of harm or loss, but also on the difficult, yet attainable possibilities for benefits, gain or mastery, then the cognitive appraisals will result in fear mixed with challenge elicitation (Lazarus, 1991, Folkman and Lazarus, 1985) and the respondent feels hopeful, eager, and confident to meet the demands (Skinner and Brewer, 2002). The appraisal of various gains, mastery and personal growth possibilities (i.e., perceived benefits) is stipulated to elicit positive emotions such as hopefulness, inspiration determination, and eagerness (Schneider et al., 2009, Folkman and Lazarus, 1985) which accompany an ambiguous positive state of challenge (Lazarus et al., 1980, Lazarus, 1991). The final version of fear mixed challenge stimulus is described in greater details in chapter four.

3.7. Research Context

Since 1990s, the commercial gambling has been widely legalized in numerous countries, leading to the burgeoning growth of gambling industry and gambling expenditures globally (Reith, 2003). One definition of gambling is the risking of something of value when there is an element of chance associated with the outcome (McKey, 2002). Problem gambling has emerged as a serious public health issue (Adams, de Raeburn and Kawshi, 2009). Some scholars argue that the liberalisation of the gaming industry from a welfare economic perspective (Livingstone and Adams, 2011) together with the widespread use of the Internet for gambling contribute to the global rise of problem gambling among younger people as well as adults (King, Delfabbro and Griffiths, 2010, Gainsbury, Wood, Russell, Hing and Blaszczynski, 2012). Gambling has emerged as a significant public health issue based on the evidence that anyone who gambles regularly is at risk of becoming a problem gambler (Wheeler, Round and Wilson, 2011). The negative consequences from problem gambling include substance abuse (Hayatbakhsh, Clavarino, Williams, Bor and Najman, 2012), suicide (Nower, Gupta, Blaszczynski and Derevensky, 2004), relationship breakdowns, lowered work productivity, poor mental health, job losses, bankruptcy, and crime (Brunelle, Leclerc, Cousineau, Dufour, Gendron and Martin, 2012).

According to the Australian Productivity Commission Gambling Report (2010), problem gambling is an issue of national concern with 115,000 Australians categorized as problem gamblers and 280,000 people categorized at moderate risk. The significant social cost of problem gambling in Australia exceeds \$4.7 billion a year, with only approximately 15% of problem gamblers seeking help (Productivity Commission Gambling Report 2010), suggesting that identifying any attempt at mitigating harm, including social marketing, can be worthwhile. Despite the negative impact problem gambling poses to individuals and society, very little attention has been paid to the available resources of social marketing as an effective prevention tool for raising awareness of problems associated with gambling. Therefore, present study addresses this gap and adopts gambling as a context of the current research targeting gamblers (i.e., low risk, moderate risk and problem gamblers) as the primary recipients of emotional advertising. Web-based format of data collection in the present research insures greater access to the gambling participants involved in a range of gambling activities (Wood and Griffiths, 2007).

Moreover, anonymous web-based survey increases the likelihood of honest self-administered questionnaires responses to the sensitive questions (Neuman, 2011, Lahn, Delfabbro and Grabosky, 2006) in gambling context.

3.8. Summary

This chapter has outlined the research questions specific to the thesis, it has presented the conceptual framework outlining the hypothesised relationships that will be tested and formalized these hypotheses. The chapter also provided the rationalisation for the research design; delineated adopted research stages; and justified the importance of the study context. Furthermore, chapter four reports on qualitative validation of the proposed conceptual model to evaluate the face validity of the constructs. Chapter four also reports on relevant threats and challenge-associated perceived benefits derived from help-seeking, to be further integrated into fear mixed with challenge stimuli.

Chapter 4: Qualitative Insights from Focus Group Discussions

4.1. Introduction

This chapter focuses on the qualitative exploratory stage of the research and investigates in-depth responses, such as attitudes, opinions, perceptions, and beliefs, from participating consumers towards social marketing advertisements in different contexts, including gambling. Particular attention is given to consumers' reactions to fear appeals, challenge appeals, and fear combined with challenge advertising. First, this chapter discusses focus group objectives. Second, it reports on sample characteristics, data collection procedures and data analysis, and describes advertising stimuli shown to participants. Finally, findings of five focus group discussions, including suggestions about advertising stimuli adjustments proposed by gamblers are reported.

4.2. Focus Group Objectives

The main objective of the current investigation is qualitative validation of the proposed conceptual model in a thematic manner (Boyatzis, 1998) to evaluate face validity of the constructs. A qualitative approach is suitable for the preliminary research phase of this project to provide useful insights into theoretical variables of interest from the respondents' perspective. It is essential to determine whether the target audience perceives the main constructs outlined in the theoretical model (i.e. fear, challenge, response efficacy, self-accountability, and attitude change) in the same manner as defined for the study and to confirm that these constructs are considered relevant. The data generation through focus group was used to develop what is known in the advertising literature as "creatives," hence, it was important to use focus group discussions that led to as much debate and exchange of ideas as possible (Carter et al., 2011, Calderwood and Wellington, 2013). Moreover, the qualitative phase can reveal different types of threats in the gambling context as well as perceived benefits of help-seeking, relevant for the Australian target population, to be incorporated in the final advertising stimuli.

Investigating the perceptions, beliefs and opinions of the target population through focus groups enables the identification of determinants of risk behaviour and permits the evaluation of the effectiveness of various communication strategies to alter this behaviour

(Brownson, Kreuter, Arrington and True, 2006). Disregarding respondents’ opinions and beliefs may result in health message misinterpretation and non-compliance (Carter, Pollard, Atkins, Marie-Milliner and Pratt, 2011). Moreover, identifying the right emotional themes (i.e., fear, challenge and fear mixed with challenge) is crucial to effectively communicate to the desired target audiences in order to create attitudinal and behavioural change (Andreasen, 2006).

4.3. Sampling Procedure

Five focus groups were conducted with gamblers and the general population (age range 20 to 60 years old) within the metropolitan area of Adelaide, South Australia. A convenience sample, consisting of 43 participants, was drawn from the population. According to Malhotra and Birks (2007), non-probability techniques, such as convenience sampling, are suitable for exploratory research and are employed in this qualitative research stage. The composition of the sample of respondents in the different focus groups is summarised in table 4.1, below.

Focus group respondents	Men	Women	Age 20s	Age 30s	Age 40s	Age 50s	Age 60s	
Total	43	24	19	12	6	7	10	8

Following ethics approval from the University of Adelaide Human Research Committee (Appendix 4.1 A, B), and from a non-government organisation the advertising flyers describing the purpose of focus groups and outlining inclusion criteria were distributed to professional consultants employed by a non-government organisation specialising in help and assistance for those affected by gambling in Adelaide, South Australia (see Human Ethics Approval in Appendix 4.1.C) to select participants for the gambling cohort (25 respondents). The general population cohort (18 respondents) was recruited by sending similar flyers inviting students (Honour and PhD students from Business School, University of Adelaide, excluding marketing students) and working and retired adults. A financial incentive (gift card) was offered to each participant in both cohorts. Participation was voluntary and each participant was assured confidentiality. Transcripts of focus group interviews identified participants by gender and actual participants’ names were omitted to ensure anonymity and confidentiality. All willing participants signed a consent form (Appendices 4.2A), prior to commencement of the focus group and received a copy of the information sheet and independent complaint form (4.2B, 4.2C).

All participants were served light snacks and refreshments. Focus groups lasted approximately 1.5 hours and were conducted by the researcher.

4.4. Data Collection and Advertising Stimuli Description

Before conducting the focus groups, a semi-structured discussion guide was developed for use in all focus groups (Appendix 4.3). Issues raised in the discussion guide permitted insight into attitudes, beliefs and feelings towards various social marketing campaigns based on executions created to elicit fear, challenge and fear combined with challenge. The content of the discussion guide was consistent for both populations. However, the guide for the gambling population included additional questions related to appropriate threats of excessive gambling, as well as important benefits of help-seeking behaviour. Additionally, several questions prompted gamblers to specifically outline message content and message characteristics perceived to be most effective in communicating risks associated with excessive/irresponsible gambling and stimulating help-seeking behaviour. A digital recording device was used to audiotape all focus group discussions. The researcher moderated the discussion and took notes on verbal and non-verbal communications.

The focus groups consisted of two parts. Part 1 was undertaken in a traditional focus group format and followed a semi-structured discussion arising from participants recalling their exposure to social marketing campaigns, past or present, which impacted them emotionally. Respondents were prompted to give examples of such campaigns. The second part of the focus group exhibited a series of existing social advertising examples (in printed media form) evoking fear (Appendix 4.4A) or challenge (Appendix 4.4B). The medium of print was chosen based on its relatively low cost of production and its ability to stimulate reality as far as possible under experimental conditions (Arthur and Quester, 2004). Printed media, magazines, journals, and newspapers are viewed by some consumers as a realistic context for social advertising messages and some consumers rely more on messages transmitted through printed media than through audio-visual media (Wells, Burnett and Moriarty, 2002). Social advertising examples were searched and selected through the Google Image search engine. The following search words were used: fear appeals, challenge appeals, smoking, drink driving, texting and driving, obesity. The advertising examples were presented to the audience in PowerPoint format.

Respondents were asked to provide their immediate feelings and reaction toward each advertisement and were prompted to explain their reaction towards specific elements within the message that turned individuals in or out of message processing. Next, a series of print advertising stimuli in the gambling context, created by a professional graphic designer, were shown to participants (Appendix 4.4C).

It was necessary to use advertising stimuli that had not been previously used in South Australia in order to avoid significant implications in relation to halo effect (i.e. preconceived ideas about the advertisements). Had respondents seen a specific advertisement before, they may have become desensitised and therefore experience less emotion which would compromise the internal validity of the study. The designers used international stock photography websites to source images to be portrayed in the advertisements. As previously stated in chapter three, the stimuli design was theoretically guided by the cognitive phenomenological theory of emotions (CPHTE) and the revised protection motivation model (RPMM). However, important qualitative insights from the focus group discussions were necessary for further stimuli adjustments in order to customise them for Australian consumers. The detailed description of advertising stimuli alterations based on the focus group discussions is provided in section 4.8 of this chapter. Brief description of selected advertisement stimuli designed for the study is provided next.

Fear stimuli portrayed a person in a destitute state (i.e., person lying on the floor in a foetal position) accompanied with the following text statements: “First gambling strips away your money. Then your-self-control. Your Friends. Your family. And your pride. Until there is nothing left to loose. Call (tel. number) Gambling Help and Support Centre”. This treatment was designed for both genders with the male or female picture displayed in the centre. Another fear appeal image depicted a man with a gun pointing into his open mouth in an attempt to commit suicide, and accompanied the following text: “Keep gambling. One day you might be loaded. Call (tel. number) Gambling Help and Support Centre”.

Challenge stimuli designed for this study include cues of optimism, combat, and personification of help seeking benefits as suggested by the previous research (Smith, 2007). Stimuli portrayed various faces (differing gender, age groups, and cultural backgrounds) accompanied with the following text: “It takes a true hero to come back from zero ! To win your life from gambling call (tel. number). Gambling Help and Support

Centre”. Other stimuli included verbals such as “Get yourself out of gambling. Then you’ll know what a winner feels like”; or “Do not let gambling win. You still can beat it!” Another image portrayed a person against the background of a “pokie machines” accompanied with the following text: “There is no greater achievement than turning your life around 180 degrees. Win your life back! Call (tel. number) Gambling Help and Support Centre”. Challenge stimuli were further revised and adjusted based on the qualitative insights from the focus group discussions with South Australian gamblers.

In order to design the fear mixed with challenge stimulus for the current study, important qualitative insights about particular perceived threats (i.e. gambling risks) and particular perceived help- seeking benefits meaningful for the Australian population were obtained from the focus group discussions with the target population. The final version of fear mixed challenge stimulus is described in greater details in section 4.8.

A condition of the ethical clearance imposed by the Human Research Ethical Committee of the University of Adelaide on this study (categorised as a low risk research) allowed using advertising stimuli which only evoked mild levels of fear arousal in gambling respondents. Due to these ethical considerations, designed stimuli were less arousing than social marketing messages usually broadcast in everyday media.

4.5. Data Analysis

Digital recordings of focus group discussions were transcribed verbatim by the researcher. A comprehensive analysis of focus group discussions was conducted using thematic analysis (Braun and Clarke, 2006, Boyatzis, 1998). Thematic analysis is the process of identifying patterns or themes in qualitative data and is considered as a flexible, accessible and widely-used method of qualitative data analysis (Braun and Clarke, 2006). Thematic analysis enables researchers to describe a data set in great detail, but also permits interpretation of various aspects of research topics (Boyatzis, 1998) to “reflect and unravel the surface of reality” (Braun and Clarke, 2006, p. 81). Epistemologically, thematic analysis of the current research positions itself as a realist method (Sobh and Perry, 2006) and reports on participants’ experiences and meanings derived from advertising stimuli assessments.

Data collection was conducted until saturation was reached (Patton, 2002). Analysis involved a search across the entire data set on the semantic level in order to identify repeated patterns of meaning (Boyatzis, 1998). Data was analysed in stages using a theme-building approach (Messerlian and Derevensky, 2007). First, the transcribed discussions were read in order to begin to identify general themes and recognise manifesting patterns. Then the discussions were re-read using a color-coding system to identify the main research areas as outlined in the discussion guide. Reading of transcriptions was completed using reformatted text in order to identify key points and manifest subthemes. Words and phrases that typified a theme were highlighted and key phrases and patterns were documented. Next, a table was developed in order to record subthemes, quotes and disconfirming cases. Lastly, an interpretation of the patterns of responses by theme was compiled by drawing links between and within respondents from different groups. The interpretations of the focus groups were validated based on the triangulation and trustworthiness (Cavana, Delahaye, and Sekaran, 2001). In particular, standards of analysis were used in accordance with Stewart et al. (2007) to free the data from bias in the interpretation process by engaging an independent scholar to validate data analysis. Two researchers independently performed the analysis in order to identify key ideas and subthemes that arose from within groups and across different groups, and to identify areas where there was no agreement on a specific subtheme. After the analysis was completed, both researchers met to compile and compare notes. Project validation was addressed by combining the two researchers' analysis of the transcriptions (Mays and Pope 2000). There was considerable agreement between researchers on subthemes and links drawn. In a number of cases, a subtheme was broadened or reorganized in order to incorporate additional links made by individual researchers. As such, full agreement was reached regarding final coding of themes.

4.6. Findings

4.6.1. Responses to Fear Appeals

The majority of participants easily recalled social advertising campaigns in relation to drinking and driving, as well as tobacco/smoking prevention campaigns, bullying/domestic violence, binge eating/obesity, gambling, and drug abuse advertising. Most participants recalled campaigns incorporating strong emotional appeals as a communication strategy.

Participants agreed that emotional advertising is more impactful on consumers in comparison to purely rational or statistic-based messages. For example, one participant stated:

“Strong emotions can make you aware. Statistics is nothing. Statistics can be presented in many different ways. You cannot trust statistics.”

Further, the discussion focused on negative emotional content, such as fear appeals. Fear was described by respondents as both a “positive and negative emotion”, implying that in a positive sense fear has some motivational capacity to protect, but also can “incapacitate” or “overwhelm” some individuals. Some participants suggested that a fearful emotional response towards threats portrayed in an advertisement might be elicited when consumers identify with the advertising content. For example, respondents mentioned that identification is likely if similar experience as portrayed in the ad has taken place in their life. After seeing an ad portraying loss of a house and family separation as a result of gambling one participant mentioned the following:

..... “This ad scars me and turns my stomach how I came so very close to that. I almost lost my family and our house.”

Some participants stated that using fear appeals may be effective in capturing the audience’s attention and communicating risks. These participants perceived fear as a motivational emotion that can be considered “healthy” if it raises awareness about social issues for oneself and the community. Other participants acknowledged that fear appeals can wear off quickly and desensitize the audience or may produce the opposite or an unintended effect, by prompting some consumers to engage in risky behavior. For example, some respondents mentioned the following:

“I remember, quite a few years ago I seen a pack of cigarettes which used that type of scary imagery: the scalp, the death; and it became really popular among teenagers. It actually had the opposite effect on them. →”People do get desensitized to them [fear appeals]. Those on cigarette pack for example. When you see them for the first time they are quite confronting, but then you accept it [scary image] and it becomes “a normal part” of a package. The scary effect wears off quickly.”

Other participants did not perceive the fear approach as effective and questioned if fear appeals are “potent enough” to stimulate protective action in the targeted population. For example, one participant responded with:

“I think if the ad provokes frustration, or fear, which makes me feel like I am powerless and I do not do anything, then I just turn off. Zero-rating ad!”

Multiple emotional responses towards the designed threat appeals were observed in participants, eliciting a range of negative emotions as well as fear. This qualitative evidence supports previous findings that threats portrayed in fear appeals may evoke multiple affective responses such as fear, sadness, anger, or surprise (Brennan and Binney, 2010, LaTour and Rotfeld, 1997). Some respondents, who indicated that they had not personally experienced the negative consequences portrayed in the stimuli (i.e. family separation and loss of house), reported sadness as an emotional outcome. Respondents who identified with the advertising content based on personal experience found the designed stimulus as “trustful” and “meaningful”, yet also evoking feelings of guilt, embarrassment, or “disgrace”, and even “shocking” and “stomach-turning”.

Another stimulus shown to the audience portrayed hitting rock bottom in a suicide attempt scenario. Participants described a range of emotional responses towards such a stimulus including anger, frustration, annoyance, horror, sadness and humiliation. Some respondents suppressed emotional response, declaring that they felt nothing towards the violent stimuli. Such hard-hitting imagery received support from some problem gamblers, however, enraged others who claimed that the suicide attempt scenario “offered a wrong way out”. Such extreme forms of fear appeals or shocking tactics with vivid visual displays prompted problem gamblers in particular to dismiss the message all together and ultimately disengage from processing the message.

“It [fear appeal] is too confronting.” → “Yes, I agree. I will turn away; I am not looking at it. I do not want to read it. I do not want to look at it.” → “Too much in your face. It is a reality, but I do not want to see it.” → “I say NO [to shock tactics] because to me that message can tip somebody over.” → “Let me try to say something there because if you walk out of the casino broken and you see this ad [fear appeal with suicidal person in gambling context] you may say OK, let’s do it [kill yourself]. For some people the image may get wrongly reflected in their mind. I just do not think it [extreme fear appeal image] is right.”

The present data supports the notion proposed by LaTour and Rotfeld (1997) that fear appeals remain a highly controversial communication strategy and cannot be generalised across health contexts, as consumers react differently to health and/or social marketing campaigns based on personal relevance (Peters et al., 2012).

4.6.2. Responses to Challenge Appeals

The selected challenge stimuli captured the following elements of challenge through words and images, as suggested by Lazarus et al. (1980): positive expectations and benefits,

encouragement of battling or fighting the problem, cues of optimism and hope that emphasised success. Respondents were unaware that stimuli were classified as ‘challenge’ in order to avoid biased interpretation of selected advertisements. Participants’ perceptions (Eagly and Chaiken, 1993, Petty and Cacioppo, 1986) of challenge-based stimuli was described as “positive”, “encouraging” and “reinforcing” based on the message’s ability to outline the goals for change and communicate the ways and reasons to achieve them. The challenge-based advertising format, in a gambling context, was spontaneously associated with a gradual progress, hard work and step-by-step change by some problem gamblers. For example, one participant mentioned that gambling recovery is effortful: *“It is years. It is work in progress. I mean WORK [loud voice emphasizing the effort]”*. Some participants perceived the challenge format in relation to gambling as a protective action that initiates personal control over excessive gambling through encouraging specialised help-seeking. Message statements incorporating challenge attributes, such as benefits of personal achievement (“you can turn your life around”), mastery of one’s life (“get yourself out of gambling and win your life back”) and encouragement to battle or fight the problem (“do not let gambling win—you still can beat it!”), were perceived as “positive”, “encouraging”, “relevant and hopeful”, “strong”, “exciting” and “uplifting to someone wanting to try” by some of the respondents.

The appraisal of positive expectations, gains and benefits translated into positive affect elicitation, indicative of challenge-associated emotions in some respondents, in accordance with the cognitive phenomenological theory (CPHTE) (Lazarus et al., 1980). Importantly, one respondent acknowledged that stimuli outlining the benefits of help-seeking enhanced her thinking about it and prompted her to process the message in more detail. Likewise, another respondent revealed that the positive expectations of help-seeking portrayed in the advertisement were truthful, as she linked information in the message with her own life experience. This qualitative evidence suggests that challenge-based appeals may engage consumers into deeper message elaboration, leading to systematic processing of the message, and prompting them to relate their prior knowledge and their own experience to the message content. However, for some participants, the challenge-based message statements were perceived as “unconvincing” and “doubtful”. Some participants felt “numb”, “ambivalent”, “disinterested” and “unconvinced” by challenging statements (i.e. “You can turn your life around 180 degrees! Get yourself out of gambling and win your life back”).

The participants were then prompted to imagine and describe their own social marketing advertisement in a gambling context. Indirectly, through the respondents' descriptions of their own advertisement campaigns, the research revealed important message features that could contribute to message effectiveness from the gamblers' perspective.

4.6.3. Experiencing and Constructing Mixed Emotional Message Conditions

One respondent, describing her own life experience, and two respondents, describing their imaginary social marketing message, suggested, indirectly, that a combination of both negative and positive emotions in the message may motivate the at-risk audience not only to pay attention to the stimuli, but also to seek help if motivated by a personal growth perspective. One participant stressed the importance of eliciting both negative and positive emotions enclosed in a message. She provided her personal life example of how such mixed emotional experience motivated her to seek help from her gambling addiction.

“One of the turning points for me in deciding to give up gambling, was that my counsellor put all the bad things that I was doing (gambling, drinking) on my route to destruction on the board and on the other side of the board we worked out what my life would look like without doing that, if I changed. You know, if I kept going the way I was - suicidal and the rest of it, which would probably be the end of it [life]. But on the other side of the white board we started to talk about things like connecting back to my children, being a worthwhile person, thinking about working again, all those sort of things. These positive things written on that board, inspiring sort of things, made me think. Slowly seeing that sort of hope, things that I wanted to do in a positive way, because I was lost, totally lost, made the difference.”

Having established that a combination of fear appeals mixed with positive emotional content were considered acceptable for social advertising in the gambling context by several recovering problem gamblers, these respondents were prompted further to categorise which relevant threats associated with excessive gambling should be portrayed in social advertisements using mixed emotional content.

4.6.3.1. Relevant Threats in the Gambling Context

Some participants mentioned threats such as separation, divorce, losing property and significant financial debt as relevant for inducing threat. Prompted further, however, participants acknowledged that there is no universal threat in gambling, as individuals who engage in excessive gambling often have vastly different personal circumstances.

Hence, threats such as family separation or property loss, for example, may be too narrowly focused. Social/psychological threats emerged as the most commonly shared burden among the majority of participants within the focus groups. *Perceived susceptibility* to the threats, such as “isolation and being deserted by everybody”, “loss of self-esteem”, “loss of identity”, “feeling emotionally and physically sick”, “social exclusion and stigmatisation”, and “loss of trust, because nobody believes you anymore”, appear to induce negative emotions. Loss of personal control over excessive gambling was an especially impactful threat for some participants. One participant described the negative emotional experience (i.e. fear) associated with a loss of control as a sense of “feeling trapped, stuck and desperate. “Another respondent highlighted that a combination of negative content (i.e. scare someone first) combined with positive expectations and opportunities (i.e. entice them with a positive strategy, something they can target and look forward to) would produce more compelling and persuasive effects.

“Fear alone is probably not enough; you need to give them [target population] something to work towards or some way to change their behavior: If you scare someone first and then entice them with a positive way of solving their problems, something they can target and look forward for, that’s probably more effective than just trying to scare them to change their behaviour.”

Having established that anticipatory positive expectations resulting from help-seeking and quitting gambling were considered important and relevant elements in the communication process for problem gamblers, respondents were further prompted to outline particularly relevant anticipatory benefits arising from help-seeking in a gambling context.

4.6.3.2. Positive Expectations and Benefits from Help-Seeking in Gambling Context

The meaningful positive expectations and opportunities (i.e. *perceived benefits*) resulting from help-seeking behaviour included “family reunion”, “re-connection with children and loved ones”, “start of work”, “changed lifestyle with the exploration of positive dimensions in life” and “coming back to life”, “new identity”, “acquired self-worth and self-esteem” and “meeting new people with positive ideas.” One respondent highlighted the importance of “setting yourself free” from gambling which gives a “second chance in life to be lived with honesty and integrity “. Another respondent’s scenario reflected a mixed emotional format in which threat (i.e., excessive gambling risk as slipping down to the bottomless pit) was combined with positive emotions which spurred growth and achievement, counterweighing gambling.

“It is important to get the message that you might be tittering at that point, but that slope from there to there is so steep, so slippery you’re there (the bottom of the pit) before you even know it. You slipped down and you are there and it’s hard to get back up. You are worthy of stopping there. Do not throw away your self-esteem; do not throw yourself away from this point. Do backwards from here. Build yourself from here!”

This respondent also incorporated important challenge appraisal elements into the message statement which encouraged resisting the problem (*Build yourself from here; Do not throw away your self-esteem; Do not throw yourself away from this point; You are worthy of stopping there*) and focused on positive expectation if help is sought (*Your life has hope. You are worthwhile*). The respondent enforced the message with meaningful dreams and achievements as a counterweight to gambling and implied what gamblers can achieve in themselves (*Your dreams and achievements now mean more than a press of a button*).

4.6.3.3. Self-Accountability and Response Efficacy

Some respondents mentioned that problem gamblers may be reluctant to seek help and feel intimidated by the social stigma attached to their gambling status, despite positive expectations of help-seeking outlined in the message. In order to prompt consumers to enquire about specialised services (such as counselling), the advertisement should normalise help-seeking. One way of normalising help-seeking is to show in the advertisement that the initiative to seek professional help comes from the gamblers themselves.

“I am getting myself out of gambling. It’s OK to ask HOW!”-would be a more encouraging message.→ “Try to personalise the message, because it’s ME talking. I am not being talked down. I am not being told what to do. It is my own decision.”→”Show more the consequences of what you are doing. Think about people external to you that may be affected by your gambling. It will make you feel responsible for the situation.”

A personalised decision to “get myself out of gambling” emphasises the individuals’ accountability for help-seeking actions and qualitatively supports the relevance of the *self-accountability* construct, and its impact on attitudes and intentions. Learning the skill of “tapping ourselves on the shoulder” in order to stop gambling and seek help was considered as a personal responsibility by several respondents, supporting the fact that self-accountability may influence help-seeking attitudes and intentions in a gambling context. However, making gamblers feel self-accountable for help-seeking may not be enough to prompt them for action.

“You cannot change this [problem gambling] without help, you cannot do it alone. You have to get yourself into an environment that is stabilising and supportive and it’s not always family, because they are very hurt.” → “Tell me in the ads that there is someone who can actually help me and it’s got to be readily available.”

Respondents acknowledged that in the gambling context, professional help is an essential component of recovery and provides an opportunity of treatment in a supportive environment. Without clearly delineated action steps (i.e. *response efficacy*) the advertisement would leave respondents anxious and unable to reach resolution. The message cues and action steps suggested by the respondents included information about readily-available specialised help executed professionally, anonymously and non-judgmentally.

4.7. Summary of Qualitative Findings on Face Validity of Constructs Incorporated into Proposed Conceptual Model

This qualitative analysis confirms that despite the complex theoretical foundations of the current model, none of the integrated theoretical concepts contradict or compete with each other. Furthermore, the face validity of all constructs incorporated into the proposed conceptual model has been qualitatively confirmed. In particular, realistic threats emerged, including predominately those of a social and psychological nature. Perceived susceptibility to loss of personal control over excessive gambling was amongst the most impactful threats for the majority of focus group participants. The analysis identifies that loss of personal control over excessive gambling translated into *fearful* emotional responses when an advertisement depicted “feeling trapped, stuck and desperate”. Such a finding is important for the proposed conceptual framework as it qualitatively confirms the relationship between perceived susceptibility and fear in the gambling context, consistent with the Revised protection motivation model (RPMM) (Arthur and Quester, 2004). Such findings indicate which specific perceived threats (in a gambling context) are relevant for Australian at-risk consumers and result in fear elicitation. Threats such as isolation, self-esteem and identity loss, and significant financial debt were also perceived as relevant and fear inducing. However, other negative emotions, such as sadness or anger, can be elicited in response to perceived threat susceptibility evaluations in the gambling context, similar to findings by LaTour and Rotfeld (1997).

Study findings suggest that advertising messages intended for enduring behavioral change, such as stopping excessive gambling and seeking specialised help, should be linked to personally and socially positive consequences, positive expectations of mastery achievement and problem confrontation (i.e., *perceived benefits*). Notably, the current study confirms that evaluations of anticipatory harms and benefits arising from quitting gambling and help-seeking creates ambiguity, which is an essential condition for mixed emotion elicitation (Folkman and Lazarus, 1985). The current qualitative analysis finds support for the notion that appraisal of relevant potential *perceived benefits* of help-seeking leads to positive affect accumulation and evokes emotions associated with challenge (i.e., hopeful, enthusiastic, determined), as stipulated by the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980).

The study also confirms that advertising executions need to be perceived by the respondents as optimistic, yet effortful, demanding, and to some extent stressful, in order to comply with a challenge appraisal in the gambling context. Preliminary qualitative evidence also suggests that challenge appeals, which included perceived benefits, prompted detailed message processing in some consumers, indicative of a systematic mode of information processing (Eagly and Chaiken, 1993). For example, encouragement to battle or fight gambling by means of specialised help-seeking also resulted in positive affect associated with challenge, as described by Lazarus (1991, p.83) as a “joy of a battle”.

Several consumers perceived challenge as “positive”, “encouraging”, “relevant and hopeful,” “strong”, “exciting” and “uplifting to someone wanting to try”. These qualitative findings suggest that the combination of fear and challenge will impact on help-seeking attitudes, and that a systematic mode of information processing may act as a mediator in this relationship. However, the perceived benefits of help-seeking may be deemed unrealistic if they exceed an individual’s capability to resist, due to the compulsive nature of gambling, therefore, consumers should be connected with available professional help. Realistic and achievable perceived benefits of help seeking emerged as intrinsically motivating (i.e., better psychological well-being, second chance in life, increased self-esteem and identity found). Moreover, the current qualitative findings highlight the importance of both *response efficacy* and *self-accountability*. Furthermore, personalised messages (I am getting out of gambling. It’s OK to ask how) might enhance self-accountability for, and normalisation of, help-seeking behavior in the gambling context.

Hence, our preliminary qualitative evidence indicates that emotional appeals in the gambling context are an influential and potent communication approach in social marketing. Current qualitative investigation has identified proponents for fear, challenge and mixed emotional appeals among focus group participants. Opinions about a particularly persuasive emotional appeal, whether fear, challenge or fear mixed with challenge, were strongly polarised. However, mixed emotional appeal (fear combined with challenge) may achieve more compelling results in terms of acceptance of help-seeking resolutions for some problem gamblers than fear appeals, or challenge appeals. This finding parallels the notion that mixed positive and negative emotion co-activation allows individuals to focus on stressful information long enough to identify adaptive solutions, gain mastery over future stressors and transcend traumatic experiences common in the compulsive consumption contexts (Larsen et al. 2003). Thus, qualitative findings support the face validity of the proposed conceptual model, which explains the persuasive process and outcomes of emotion-based messages by incorporating fear mixed with challenge appeals.

4.8. Advertising Stimuli Adjustments Based on the Focus Groups Discussions'

One of the objectives of focus groups was to establish the types of perceived threats and perceived benefits portrayed in the advertisement that would evoke intended emotions, such as mild fear, fear mixed with challenge or challenge. Based on our qualitative findings, several advertisement stimuli were altered, or in some instances omitted, before quantitative pretesting. Advertising treatments selected for the pilot tests are displayed in the appendices (4.5.A, 4.5.B, 4.5.C, 4.5.D, 4.5.E). Adjustments incorporated into advertising stimuli are summarised next.

4.8.1. Fear Appeals Adjustments

Based on focus group results, fear appeal portraying a person in a destitute state (e.g. person lying on the floor in a foetal position accompanied with the text: *"First gambling strips away your money. Then your-self-control. Your Friends. Your family. And your pride. Until there is nothing left to lose"*) was retained for quantitative testing. Gamblers revealed that threats portrayed in such stimuli (financial loss and social threats – loss of friends and family, loss of self-control etc.) were relevant and truthful in the gambling context. These stimuli portrayed a person (man for male subjects, and a woman for female subjects) retaining the same captions for both genders (Appendices 4.5.A, 4.5.B).

However, another fear appeal which depicted a man with a gun pointing into his open mouth in an attempt to commit suicide was removed from quantitative pre-testing based on the elevated levels of distress it caused among gamblers. Moreover, ethical clearance for this research was only granted for threat appeal eliciting mild fear arousal.

4.8.2. Challenge Appeals Adjustments

Conceptually, situations portrayed in advertising are perceived as challenging when they provide a chance to succeed on a difficult task where success is likely (Smith, 2007) and where one anticipates to grow and gain from the demanding encounter associated with the attainment of meaningful rewards (Lazarus et al., 1980, Lazarus, 1991). Meaningful rewards were conceptualised in the current research as perceived benefits. Challenge format is also conceptualised as “the joy of battle” and emphasises an ability to combat or confront a problem or issue (Lazarus, 1991, p.83). Gamblers revealed that “setting oneself free from problem gambling” is an effortful task and requires “hard work”, but at the same time it is an essential step of problem gambling recovery. “Setting yourself free from gambling” may lead to the rewarding opportunities described as “coming back to life”, “changed lifestyle with the exploration of positive dimensions in life”, “new identity”, “acquired self-worth and self-esteem” and a “second chance in life to be lived with honesty and integrity”. Hence, challenge treatments designed for the pilot test retained the following captions: “Set yourself free from gambling! You can still beat it!” Notably, several gamblers revealed that statements such as “Get yourself out of gambling! Then you’ll know what a winner feels like” was considered as a judgemental and patronising “put down”. Another textual statement “There is no greater achievement than turning your life around 180 degrees. Win your life back!” was considered by some respondents as confusing and misleading. Therefore, such statements were omitted from challenge appeals.

Additionally, several respondents proposed to change the imagery for challenge treatments. For example, some respondents suggested anonymising or disguising the visual stimulus portraying images of real people. These respondents mentioned that if the visual image in advertising is blurred or anonymised it is easier to relate to such stimulus. Blurred or anonymised visuals do not create controversy, as respondents tend to instantly look for differences rather than for similarities between themselves and the person portrayed in the advertisement.

One respondent regarded the visual imagery of a genderless silhouette of a person who is trying to get out of the “pokie machine” as “the most powerful image, which, in a way, looks towards the future”. Hence, the challenge stimulus was adjusted by retaining the “Set yourself Free from gambling! You can still beat it!” captions and adding an image of genderless silhouette of a person trying to get out of “the pokie machine” to represent an effortful action to escape gambling. For a visual inspection of adjusted challenge appeal see Appendix 4.5.C.

4.8.3. Fear Mixed with Challenge Appeals

Conceptually, the cognitive-motivational relational theory (Lazarus et al., 1980, Lazarus, 1991) postulates that threat and challenge appraisals are anticipatory evaluations of potential harm and benefit interconnected with an upcoming stressful encounter (Folkman and Lazarus, 1985). The person attending to the message can perceive possibilities for both positive (i.e., seeking help) and negative (i.e., continue excessive gambling) action outcomes and, as a result, both threat and challenge emotions are apt to be experienced. Based on quantitative findings from focus groups, loss of personal control due to excessive gambling was an impactful threat for some participants and described as a fearful sense of feeling trapped, stuck and desperate. Hence, fear mixed with challenge stimuli contained the following text “You may be trapped forever” to evoke a fearful response from the participants. Additionally, qualitative findings indicated that perceived benefits of “setting yourself free from gambling” were considered a challenging opportunity and elicited positive emotions, such as determination and hope, in some focus group respondents. Hence, fear mixed with challenge appeal displayed the following text “You may be trapped forever...Set yourself Free from gambling!” to evoke fear mixed with challenge in respondents. Visually, the stimulus portrayed a picture of a person in a gambling venue trying to get away from a “pokie machine” to avoid to be “sucked” into the machine. Several objects, like money from the person’s pockets or food/drinks on the table, were also about to be sucked inside the “pokie machine”. These stimuli portrayed a man (for male subjects) and a woman (for female subjects) retaining the same captions for both genders. After adjustments these stimuli were placed into an on-line questionnaire for quantitative pre- testing which is described in chapter five (Appendices 4.5.D, 4.5.E).

4.9. Summary

Chapter four described qualitative findings emerging from the focus group discussions and confirm the face validity of the proposed conceptual model. This chapter also described various advertisement stimuli specifically designed for the current study and reported on stimuli adjustments based on both, the theory and the respondents' feedback. Next chapter reports on results of two pilot tests conducted to quantitatively confirm that the designed advertising treatments evoke fear, challenge and fear mixed with challenge within a large group of gambling respondents. Additionally, chapter five describes the proposed research instruments (in the form of on-line questionnaire) and reports on instrument reliability and validity assessments.

Chapter 5: Quantitative Pre-Tests of Advertising Stimuli and Development of Research Instruments for Data Collection

5.1. Introduction

Central to this research is the ability of advertising stimuli to elicit fear, challenge, or fear combined with challenge in individuals. This chapter describes the results of two pilot tests conducted for quantitative assessment of pre-selected advertising stimuli to evoke these emotions in individuals. Importantly, this chapter reports on preliminary empirical evidence that the pre-selected advertisement stimuli were designed for the gambling context in accordance with the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus and Folkman, 1984, Lazarus et al., 1980) and the Revised Protection Motivation Model (RPMM) (Arthur and Quester 2004). Moreover, based on manipulation checks, the pre-selected advertising stimuli did induce fear, challenge, or fear mixed with challenge in targeted respondents. Furthermore, this chapter reports on outcomes of construct operationalisation to allow for the next stage of quantitative analysis to be undertaken.

5.2. Pilot Test One: Advertising Stimuli Pre-Test

5.2.1. Sampling and Procedures

The first pilot test was conducted with gamblers and the general population to quantify whether the designed advertising stimuli elicited fear, challenge, or fear mixed with challenge. The pilot test (in a form of online questionnaire) was prepared using Qualtrics on-line survey software, which allowed for the incorporation of various advertising stimuli (see an example of the web-based survey layout in Appendix 5.1). Previous research supports the reliability of an Internet-based assessment of affect and emotions (Fouladi, Mccarthy and Moller, 2002, Egermann, Nagel, Altenmüller and Kopiez, 2009).

The sample consisted of 196 participants (108 females and 88 males), totalling in 87 gamblers and 109 non-gamblers. An Australian marketing agency recruited respondents based on their frequency of gambling activity, via any means, for each participant during the previous 12-month period. Gambling activities included: card games (i.e., poker or blackjack), poker machines, racing (horses, dogs), sports (not including horses or dogs),

Crosslotto, Powerball, or Pools; Keno, scratch tickets, or Bingo. Respondents were identified by a user-defined code to ensure anonymity.

Respondents who answered that they gambled two to five times per week or gambled on a daily basis were selected for the gamblers' panel; whereas the general population panel consisted of respondents who answered that they had never gambled or gambled only once in the past 12 months. To obtain problem gambling prevalence rates amongst recruited participants, the Canadian Problem Gambling Index (CPGI) (Ferris and Wynne, 2001) was placed as the last question in the on-line questionnaire. CPGI is a nine-item self-report measure used to classify individual's gambling status. For example, CPGI includes items such as "Have you gambled more than you could really afford" or "have you needed to gamble with larger amounts of money to get the same feeling of excitement". Each item is scored along a 5-point Likert scale: never (0), rarely (1) sometimes (1), often (2) and always (3). Total scores range from 0 to 27, with higher scores indicating greater risk of problem gambling. Cut-off scores adhered to those used in original validation of the CPGI: 0-non-problem gambler, 1–2 low-risk gambler, 3–7 moderate-risk gambler, and 8–27 problem gambler. The CPGI has good psychometric properties and is widely used in Australian and international research (Jackson, Wynne, Dowling, Tomnay and Thomas, 2010). The non-problem gamblers cohort consisted of participants who scored 0 on the CPGI. The gamblers cohort consisted of 46 self-assessed moderate risk gamblers and 41 problem gamblers based on their CPGI scores.

The questionnaire displayed seven specifically designed advertisement stimuli (i.e., fear, challenge, and fear mixed with challenge appeals) and four other filler advertisements in different non-gambling contexts (as previously mentioned in Appendix 5.1). All advertising stimuli were presented to participants in random order to assess the emotions and feelings each stimulus evoked. Participants indicated the degree to which they experienced a set of emotions in response to each advertisement ranging from 1=not at all to 9=very much. Based on prior literature (Schneider et al., 2009, Folkman and Lazarus, 1985), items such as determined, hopeful, inspired, and eager were used to measure the positive emotional state of challenge (Lazarus et al., 1980). Items such as fearful, afraid, and scared (Dillard and Peck, 2001) were used to measure evoked fear. Following Williams and Aaker (2002) these emotional items were used to create emotional indexes. The challenge index ($\alpha=0.854$) averaged the determined, hopeful, eager, and inspired

items. The fear index ($\alpha = 0.948$) averaged the fearful, afraid, and scared items. Six filler emotions (i.e., happy, anxious, sad, anger, guilty, disgusted, fun) from the Positive and Negative Affect Schedule (PANAS) (Watson, Clark and Tellegen, 1988) were also included in the questionnaire.

5.2.2. Reliability of Likert Items Measuring Emotions

Exploratory factor analysis (EFA) for the Likert items measuring felt emotions was conducted to evaluate the emotional scale dimensionality. EFA is mostly utilised to determine the total number of variables required to measure a construct (Worthington and Whittaker, 2006). EFA was performed using Principal Component Factor Analysis to maximise data variance and Varimax orthogonal rotation to increase item loadings for improved interpretability (Heck, 1998). The factorability of items was assumed if the Bartlett's test of sphericity was large and significant, and the Kaiser-Meyer-Olkin (KMO) measure was greater than 0.6 (Tabachnick and Fidell, 2007). The number of factors was determined using Kaiser's criterion, which stipulates that factors with eigenvalues above 1.00 should be retained. Alternatively, Jolliffe's criterion allows retaining factors above 0.70 (Jolliffe, 1972, 2002). The percentage of explained variance accounted for by each factor was also examined while identifying meaningful factors (Worthington and Whittaker, 2006). Item retention was judged by item loadings. For instance, Tabachnick and Fidell (2007) recommend 0.32 for minimum loading of an item. Item communalities are considered high if all are 0.8 or greater (Velicer and Fava, 1998), but more common magnitudes in the social sciences are low to moderate communalities of 0.40 to 0.70 (Costello and Osborne 2005). Internal consistency was estimated using a widely used measure of reliability, the Cronbach alpha. This measure reflects a proportion of the scale's total variance corresponding to a true score of a latent construct, captured by its items (DeVellis, 2003). Some authors recommend a 0.70 Cronbach Alpha coefficient as more desirable, but 0.60 is also considered acceptable (Pallant, 2007, DeVellis, 2003).

Descriptive statistics for all emotional indicator variables is shown in Appendix 5.2.A. The Shapiro Wilk test of normality conducted on emotional items revealed that all items were significant ($p < 0.00$), indicating that the variance of each item differs significantly from a normal distribution (Appendix 5.2.B).

However, as factor analysis is robust to assumptions of normality, EFA analysis was conducted. Emotional items, such as determined, hopeful, eager, inspired, fearful, scared, and afraid, yielded two factors with eigenvalues above 1.00, confirming the expected dimensions for two separate indices: challenge (determined, inspired, hopeful, eager) and fear (afraid, scared, fearful) (Table 5.1). The Bartlett’s test for sphericity ($p < 0.00$), Kaiser-Meyer-Olkin coefficient (0.797), and item communalities were acceptable (i.e., all above 0.30) (Appendix 5.3). All items exhibited high loadings (Table 5.1). The cumulative percent of variance explained by the two factors was high (80%) (Appendix 5.3). The examination of item internal consistency yielded acceptable Cronbach alphas for both the fear index (0.948) and the challenge index (0.854) (Table 5.2).

Variables	Extracted Factors	
	1	2
Determined		.805
Hopeful		.903
Eager		.739
Inspired		.868
Scared	.968	
Fearful	.935	
Afraid	.943	
Percent of variance per factor	51.09	28.53
<i>Eigenvalues</i>	3.57	1.99

Notes:
 Extraction Method: Principal Axis Factoring.
 Rotation Method: Promax with Kaiser Normalisation.
 a. Rotation converged in 4 iterations.

	N of items	Cronbach alpha
Challenge Index	4	0.854
Fear Index	3	0.948

Note: N= 196

5.2.3. Manipulation Checks

Having confirmed reliability of the research instruments used to evaluate the elicited emotions, the advertising stimuli were examined to determine whether the intended emotions of fear, challenge, and fear mixed with challenge had been induced.

Mild emotional response toward the printed stimuli was expected as prior literature suggests that print media is not the most effective medium for generating strong emotional responses, as compared to television or radio (Chaudhuri and Buck, 1995). Earlier research has also established that respondents can subjectively perceive an issue (e.g., threat of disease) portrayed in a message without feeling touched affectively “on a very deep level” (Chaffee and Roser 1986, p. 391). Moreover, a low risk research condition set by the Human Research Ethics Committee allowed only mild emotional response toward advertising stimuli to be evoked in survey participants.

Following Carrera et al. (2010), the Wilcoxon signed-rank test was employed to determine differences in felt challenge and felt fear indices for the designed advertising stimuli. The Wilcoxon test showed no significant difference ($z=-1.057$, $p=0.231$) between the felt challenge ($M=3.36$) and the felt fear indices ($M=3.63$) for the appeal featuring a person trying to get away from “the pokie machine” with captions “You may be trapped forever... Set yourself free”, thus best representing an emotional appeal that elicited a mixture of fear and challenge emotions. The advertising stimuli portraying a genderless silhouette of a person trying to get out of “the pokie machine” with captions “Set yourself Free from gambling! You can still beat it!” showed a significant difference ($z=-3.612$, $p=0.000$) between evoked challenge ($M= 4.95$) and evoked fear indices ($M=3.52$), confirming that participants perceived the stimulus as a challenge appeal. Similarly, the advertisement stimulus portraying a person laying in a destitute position on the floor with captions “Gambling strips away your money, self-control, friends, until there is nothing left to lose” revealed significant difference ($z=-6.352$, $p=0.000$) in evoked fear ($M=5.39$) and evoked challenge indices ($M=3.07$), confirming that such a treatment is perceived as a fear appeal by respondents. Additionally, the Wilcoxon-rank test with a gender split confirmed that men ($z=-1.057$, $p=0.291$), and to a higher degree women ($z=-4.95$, $p=0.621$), experienced mixed emotions evoked by fear mixed with challenge appeal (i.e., the appeal featuring a person trying to get away from “the pokie machine” with captions “You may be trapped forever... Set yourself free”), as no significant difference emerged between evoked challenge and evoked fear. Similarly, the challenge appeal (i.e., the advertisement stimulus portraying a genderless silhouette of a person trying to get out of “the pokie machine” with captions “Set yourself Free from gambling! You can still beat it!”) evoked significantly more challenge than fear in both genders (males $z=-2.559$, $p = 0.010$; females $z=-2.560$, $p=0.010$), and significantly more fear than challenge was felt in the fear treatment (i.e., the

advertisement stimulus portraying a person laying in a destitute position on the floor with captions “Gambling strips away your money, self-control, friends, until there is nothing left to lose”) for both genders (males $z=2.861, p\leq 0.004$; females $z=-5.737, p=0.000$) (see Appendix 5.4.A and 5.4.B for both Wilcoxon signed-rank tests). Additionally, frequencies and histograms of fear and challenge indices, split by appeal type, were examined to confirm distribution differences in felt challenge and felt fear among respondents (Appendix 5.5.A, 5.5.B, 5.5.C).

Having established preliminary empirical evidence that the advertising stimuli designed for the study evoked the intended emotions (i.e., fear, challenge, and fear mixed with challenge) in respondents, these stimuli were included in a second pilot test for further pre-testing with a new cohort of respondents. Filler advertisements in different contexts were excluded from the second online survey. Additionally, the second survey contained data collection instruments identified in the empirical literature. The previously operationalised measurement instruments (mostly multi-item measurement scales) were adapted for the gambling context of the current study. The next section describes data collection instruments included in the second questionnaire and discusses the results of reliability and validity tests evaluated through scale dimensionality and internal consistency estimations.

5.3. Pilot Test Two: Advertising Stimuli and Full Questionnaire Pre-test

5.3.1. Description of Research Instruments

The questionnaire consisted of multi-item measurement scales identified in the extant literature to best represent the latent, or not directly observable, constructs outlined in the conceptual model. Definitions and scale items used to measure the main constructs/variables included in the questionnaire are described below. The same emotional assessment items including *fear* items (scared, afraid, and fearful) and *challenge* items (determined, hopeful, eager, and inspired) pre-tested in the first pilot test were included in this questionnaire. *Systematic mode* of processing is defined as the careful and extensive evaluation of information (Eagly and Chaiken, 1993). Following Griffin et al. (2002) *depth of processing* is included in the operational definition of systematic processing employed in this study. Depth of information processing is defined as the degree to which information receives semantic elaboration (Craik and Tulving, 1975) or the degree to which people actively consider salient beliefs regarding a topic (Griffin et al., 2002).

Systematic mode and depth of information processing was measured by the following items adapted from (Griffin et al., 2002): “After seeing the advertisement, I thought about what it had to say”; “I reflected about the messages in this advertisement, even though I may not agree with them”; “I thought seriously about how the messages in the advertisement may apply to me personally”; and “the advertisement gave me a better/broader understanding of the potential issues related to gambling”. Participants were asked to indicate the strength of agreement with these statements on a scale from 1 = strongly disagree to 9 = strongly agree.

Attitude towards the advertisement was conceptualised as a measure of cognitive evaluations associated with the persuasiveness of the message (Reichert, Heckler and Jackson, 2001). Respondents indicated, via 9 point Likert-type scales (1 = not at all 9 = very much), agreement or disagreement with the following statements adopted from Donovan, Jalleh and Carter (2006): “How much did the advertisement make you feel that, at some point, you may change your gambling behaviour?”; “How much did the advertisement make you feel that you did not want to gamble in the future?”; “To what extent did the advertisement make you feel that you should try to stop gambling and seek help?”

Behaviour intention is the most proximate predictor of behaviour (Ajzen, 1988) and is defined as a person's perceived likelihood to engage in the advised action (i.e., seek help). The following items (adapted from (Ho (1998), Millar and Millar (2000)) measured the outcome variable: “I don’t intend to seek any help or advice about gambling (reverse-scored)”; “it’s highly likely I will seek help with my gambling”; “I would be interested in learning more about services to help people with their gambling habit”. Respondents indicated the strength of their agreement with these statements on a scale from 1 = strongly disagree to 9 = strongly agree.

Response efficacy is defined as the extent people believe a recommended response effectively deters or alleviates a health threat (Witte, 1992). Three items were adapted from Munoz et al. (2010) (i.e., seeking help by ringing a Helpline number as shown in the advertisement is a good way to start solving a gambling problem). The subjects were asked to indicate the strength of their agreement with these statements on a scale from 1 = strongly disagree to 9 = strongly agree.

Self-accountability is defined as “an assessment of the degree to which oneself is responsible for the situation” (Smith and Kirby, 2011). The self-accountability scale was adopted from Passyn and Sujon (2006) (i.e., “How accountable are people for the consequences of their gambling?”; “How responsible are people for seeking professional help with gambling when needed?”; “How responsible are you in protecting yourself from the potential risks associated with gambling?”) These items were measured on 9 point scale anchored in not at all accountable (=1) and totally accountable (=9).

Involvement with the advertisement was conceptualised as an individual difference variable indicating the amount of arousal or interest evoked by an advertising message (Laczniak et al., 1999). The scale was adapted from Cox and Cox (2001) and included four items (i.e., “I got involved in what the advertisement had to say”). Items were anchored with strongly disagree =1 and strongly agree =9.

Tolerance of negative emotional states is defined as a-priori individual difference in the perceived capacity to withstand internal distress caused by negative emotional states (Simons and Gaher 2005). A Distress Tolerance Scale (DTS), adapted from Simons and Gaher (2005), was used to measure tolerance for negative emotions (i.e., “I can’t handle feeling distressed or upset (tolerance factor)”; “I am ashamed of myself when I feel distressed or upset (appraisal factor)”; “Being distressed scares me (appraisal factor)”; “I’ll do anything to avoid feeling distressed or upset (regulation factor)”; “When I feel distressed or upset, I must do something about it immediately (regulation factor)”. The Likert scale ranged from 1 (strongly disagree) to 9 (strongly agree) where high scores represent higher tolerance for emotional distress.

Tolerance of ambiguity is defined as an individual degree of acceptance of the cognitive challenges associated with ambiguity (e.g., complicated and/or vague situations or stimuli) (Furnham and Ribchester, 1995). Ambiguity intolerance is the tendency to perceive and interpret ambiguous situations as a source of threat (Budner, 1962). Behavioural dispositions relating to tolerance of ambiguity (TA) include acceptance of statements representing a rigid, black-white view of life, seeking certainty and remaining close to familiar characteristics of certain stimuli (Furnham and Ribchester, 1995).

Likert scale items (anchored 1 = strongly disagree to 9 = strongly agree) from the Multiple Stimulus Types Ambiguity Tolerance Scale-II (MSTAT-II) (McLain, 2009) were included in the questionnaire (i.e., “I can’t tolerate ambiguous situations (reverse-scored)”; “I enjoy tackling problems which are complex with no clear answers”; “I find it hard to make a decision when the outcome is uncertain (reverse-scored)”; “I am tolerant for ambiguous situations”). Higher-scale scores indicate greater ambiguity tolerance.

The questionnaire also included a problem gambling self-assessment scale (CPGI), gender, race, income, and education level assessments. Similar to the first pilot test, the questionnaire collected data on types and frequencies of gambling activities of respondents. The survey layout is presented in Appendix 5.6. Additionally, in order to confirm that the pre-selected advertising stimuli depicted relevant threats and benefits in accordance with the CPHTE and the RPMM, reliability and validity of perceived susceptibility to gambling threats and perceived benefits of help-seeking measurement instruments were included in the questionnaire.

Perceived susceptibility is defined as perception of risk, or chances of contracting, a health disease or condition (i.e., becoming a problem gambler) (Witte, 1992). Subjects were asked to indicate the strength of their agreement with the following statements adapted from Munoz et al. (2010): “I think it is possible that I have a problem with gambling”; “If I continue gambling like I am, my personal life could suffer”; and “If I keep gambling like I am, I could suffer the same fate as the person in the advertisement”. The nine point Likert response scale was anchored with 1 = strongly disagree, 9 = strongly agree.

Perceived help-seeking benefits are defined as beliefs about the positive outcomes associated with help-seeking behaviour (Glanz et al., 2002, Sutton, Marsh and Matheson, 1990). Seven items were adopted from (McKee et al., 2005), namely: “Getting help with a gambling problem leads to better health and well-being; seeking help with regards to gambling leads to less stress and anxiousness”; “Setting Yourself Free' from gambling will lead to greater control of your life”; “A person would feel a sense of achievement if they sought help for their gambling”; “The people who care most about me would approve if I 'Set Myself Free' from gambling as the advertisement suggests”; “people who are affected by gambling would get the respect of their friends if they sought help”; “Setting Yourself Free' from gambling and seeking help sets a good example for others”.

Respondents were asked to indicate the strength of their agreement with the statement on a scale from 1 = no chance to 9 = certain to happen. The next section reports on results of the second pilot test, starting with a description of the sample.

5.3.2. Sample Characteristics

The collected data consisted of survey results from 131 respondents. The sample consisted of 67 females (mean age 47) and 64 males (mean age 51). Respondents' demographic and socio-economic characteristics are displayed in Appendix 5.7.A. Only frequent gamblers (gambling 2-5 times a week or daily) were included in the second online survey. Similarly, as in the first pilot test, the Canadian Problem Gambling Index (CPGI) (Ferris and Wynne, 2001) was included at the end of the questionnaire in order to determine problem gambling prevalence rates amongst the recruited participants. Based on CPGI self-assessments, the gambler cohort consisted of 61 low risk gamblers (a score of 1-2 on CPGI), 20 moderate risk gamblers (a score of 3-7 on CPGI) and 50 problem gamblers (a score of 8-27 on CPGI) (Appendix 5.7.B). Table 5.3 shows the types and frequencies of multiple gambling activities among the 131 respondents. In particular, 19.5% of respondents played card games for money weekly (i.e., Poker, Blackjack); 26.4% played poker machines weekly; 26.3% engaged in race betting weekly and 19.6% bet on sports (not including horses) weekly. Most respondents (62.5%) also played Crosslotto, Powerball, and Pools 2-5 times per week, and 18.9% played Keno weekly. Scratch tickets were used by 37.7% of respondents on a weekly basis; with 18% of respondents playing Bingo.

Gambling activities	Frequency			Valid Percent		
	2-3 times per week	4-5 times per week	Daily	2-3 times per week	4-5 times per week	Daily
Card games (e.g. poker, blackjack)	14	6	6	10.5	4.5	4.5
Poker machine	27	5	3	20.3	3.8	2.3
Racing(e.g. horses or dogs)	20	10	5	15.0	7.5	3.8
Sports betting (not incl. horses or dogs races)	17	7	2	12.8	5.3	1.5
Crosslotto, Powerball, Pools	73	9	1	54.9	6.8	0.8
Keno	17	5	3	12.8	3.8	2.3
Scratch tickets	36	9	5	27.1	6.8	3.8
Bingo	11	10	3	8.3	7.5	2.3

Note: N=131

5.3.3. Scales' Reliability and Validity

Convergent validity was assessed by examining factor loadings for each factor extracted by Exploratory Factor Analysis (EFA). Convergent validity assumes that variables within a single factor are highly correlated. Stevens (1992) suggests that sufficient factor loadings for a sample size of 131 subjects would be in a range of 0.5 to 0.45. Regardless of sample size, it is best to have loadings greater than 0.5 and averaging out to greater than 0.7 for each factor (Coakes and Ong, 2011).

Discriminant validity refers to the extent to which factors are distinct and uncorrelated. The main assumption of discriminant validity is that the variables should relate more strongly to their own factor than to another factor. The pattern matrix was examined to determine whether scale variables loaded significantly on one factor. Where a variable loads on multiple factors, then cross-loadings should differ by more than 0.2 (Coakes and Ong, 2011). Additionally, the factor correlation matrix was examined. Correlations between factors should not exceed 0.7, as a correlation greater than 0.7 indicates a majority of shared variance (Coakes and Ong, 2011). Internal consistency of scales was estimated using Cronbach alpha. EFA and Cronbach alpha tests were performed using SPSS 20.0.

The Shapiro Wilk and Kolmogorov-Smirnov tests of normality revealed that each of the scale items were significant ($p < 0.00$), indicating that the variance of each item differs significantly from a normal distribution (Appendix 5.8). When the assumption of multivariate normality is significantly non-normal, Fabrigar, Wegener, MacCallum and Strahan (1999) recommend principal axis factoring be used during EFA. Additionally, Costello and Osborne (2005) claim that oblique rotation (i.e. Promax) should theoretically render a more accurate factor solution as it allows for factors to correlate. These authors maintain that in the social science it is generally expected to find some correlation among factors, since behaviour is rarely separated into units that function completely independently of one another. Hence, as orthogonal rotations (i.e. Varimax) may result in loss of valuable information when factors are correlated, the Promax rotation was selected. EFA yielded eleven factors which satisfied Kiser's criterion (Table 5.4). Most Items exhibited acceptable factorability as judged by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.792) and Bartlett's test of sphericity ($p < 0.00$) (Appendix 5.9). The cumulative percent of variance explained by eleven factors was satisfactory (69.26%).

The majority of items had sufficient communalities and exhibited adequate loadings (Appendix 5.9).

The first factor grouped items measuring systematic mode and depth of information processing SMIP/DP and involvement with the advertisement items (INV) (19.83 % variance explained). Current INV measure contained relatively similar words with SMIP items (i.e., SMIP item “After seeing the ad, I thought about what it had to say” vs INV item “The ad was thought provoking”) which most likely contributed to the high correlations between this theoretically distinct constructs. Additionally, one item from help-seeking behavioural intentions (BI), two items from response efficacy (RE), and two items from attitude towards the advertisement (AT) cross loaded on this factor.

The second factor grouped perceived help-seeking benefits items (PB), exhibiting the highest loadings in the pattern matrix (.984) and explaining 15.74% of the variance in the collected data. The third factor was formed by the reversed scored items of tolerance for ambiguity scale (TA) (8.57 % of variance explained), with one TA item cross-loading on the eleventh factor. Fourth (i.e., fear, afraid, sad, and scared) and the fifth (i.e., determined, hopeful, eager, inspired) factors grouped the emotional items, explaining 8.1% of variance for negative emotions (F) and 5.4% for positive emotions (Ch).

The sixth factor comprised of two items from help-seeking behavioural intention scale (BI) and three items from attitude towards the advertisement scale (AT) (4.4 % of variance explained). Significant correlation between attitudes (AT) and behaviour intentions (BI) was unexpected; however prior empirical evidence shows cognitive and affective measures of attitude toward behaviour are strongly correlated with behavioural intentions or actual behaviours (Kothandapani, 1971, Widaman, 1985). Moreover, the sixth factor also included two cross-loaded items from RE scale, one cross-loaded item from self-accountability scale, one positively-worded item from TA scale and one cross-loaded item from SMIP scale. All items from the perceived susceptibility (PS) scale formed the seventh factor with 3.5 % explained variance. The eighth factor grouped tolerance for negative emotions items (TNE scale). The ninth factor consisted of two positively worded TA items and one cross-loaded TNE item and explained only 2.77% of variance. The tenth factor comprised of two self-accountability items (SA) (2.4 % explained variance), with the third SA item cross loading on the sixth factor as previously mentioned. Lastly, the eleventh factor was formed by the one BI item and one cross loaded reversed-scored TA item (2.1% of variance explained). Table 5.4 displays the pattern matrix of measurement instruments.

Table 5.4: EFA for F, Ch, PS, PB, BI, RE, SMIP, SA, AT, INV, TNE, and TA Items

Variables:	Extracted Factors										
	1	2	3	4	5	6	7	8	9	10	11
Evoked Emotions : Sad											
Scared		-.333		.461							
Fearful				.878							
Afraid				.940							
Determined				.903							
Hopeful					.752						
Eager					.766						
Inspired					.771						
					.847						
Perceived severity: I think it is possible that I have a problem with gambling.								.932			
If I continue gambling like I am, my personal life could suffer.								.906			
If I keep gambling like I am, I could suffer the same fate as the person in the ad.								.855			
Perceived benefits: Getting help with a gambling problem leads to better health and well-being		.974									
Seeking help with regards to gambling leads to less stress and anxiousness.		.936									
“Setting Yourself Free” from gambling will lead to greater control of your life.		.909									
A person would feel a sense of achievement if they sought help for their gambling		.938									
The people, who care most about me, would approve if I ‘Set Myself Free’ from gambling as the ad suggests.		.984									
People who are affected by gambling would get the respect of their friends if they sought help.		.937									
”Setting Yourself Free “from gambling and seeking help sets a good example for others.		.955									
Help-seeking intentions: It’s highly likely I will seek help with my gambling	.394					.486					
I would be interested in learning more about services to help people with their gambling habit.						.712					
I do not intend to seek any help or advice about gambling (reverse-scored).										.634	
Response efficacy: Seeking help by ringing a Helpline number as shown in the ad is a good way	.756										
It is pointless to seek Help - you have to face problem gambling alone (reverse-scored).	.507										
I think those people who do seek help can avoid the potential problems							.510				
Systematic mode and depth of information processing: After seeing the ad, I thought about what it had to say	.762										
I thought seriously about how the messages in the ad may apply to me personally	.496						.309				
The ad gave me a better/broader understanding of the potential issues related to gambling	.807										
I reflected about the messages in this ad, even though I may not agree with them.	.834										
Self-accountability: How accountable are people for the consequences of their gambling?										.755	
How responsible are people for seeking professional help with gambling when needed?										.675	
How responsible are you in protecting yourself from the potential risks associated with gambling?											
Attitude towards advertisement: How much did the ad make you feel that, at some point, you may change your gambling behaviour?	.330						.411				
How much did the ad make you feel that you did not want to gamble in the future?							.718				
To what extent did the ad make you feel that you should try to stop gambling and seek help?	.474						.547				
Involvement with the advertisement: I got involved in what the ad had to say.	.811										
The ad was thought provoking.	.951										
The ad was very interesting.	.819										
I felt strong emotions looking at this ad.	.768										
Tolerance for negative emotions: I cannot handle feeling distressed or upset.									.643		
I am ashamed of myself when I feel distressed or upset.									.485		
Being distressed scares me.									.668		
I will do anything to avoid feeling distressed or upset.									.724		
When I feel distressed or upset, I must do something about it immediately.									.538	.572	
Tolerance for ambiguity: I cannot tolerate ambiguous situations (reverse-scored)			.600								
I try to avoid situations which are ambiguous (reverse-scored).			.768								
I feel threatened when problems are not just black and white (reverse-scored).			.725								
I avoid situations that are complicated and not easily understood (reverse-scored).			.891								
I try to avoid problems which do not seem to have only one best solution (reverse-scored).			.809								
I find it hard to make a decision when the outcome is uncertain (reverse-scored).			.707								
I enjoy tackling problems which are complex, with no clear answers.						.312			.660		
I like it when situations can be interpreted in more than one way									.538		
Percent of variance per factor	19.83	15.74	8.57	8.15	5.40	4.41	3.53	3.13	2.77	2.41	2.18
Eigenvalues	10.11	8.03	4.37	4.15	2.75	2.25	1.80	1.600	1.41	1.23	1.11

Notes: Extraction Method: Principal Axis Factoring.
 Rotation Method: Promax with Kaiser Normalization.
 a. Rotation converged in 13 iterations.
 Cross- loadings and negative loadings are marked in red

Despite the numerous cross loadings in the pattern matrix, distinct factors for PB, F, Ch, PS, SA, TNE, and TA constructs were evident (Table 5.4). Critically, the pattern matrix revealed that BI and RE constructs accounted for the majority of cross loadings in the collected data. Hence, search for alternative and more reliable BI and RE measurement instruments before the main data collection was performed. Additionally, despite the fact that consumers' level of involvement can be highly correlated with systematic information-processing modes (Montoro-Rios, Luque-Martinez and Rodriguez-Molina, 2008) a literature search for an alternative INV measure was performed before the main data collection to increase the discriminant validity between the SMIP and INV constructs. The rest of the measurement instruments were retained in the questionnaire to be further tested on a larger sample of respondents during the main data collection stage.

Item reliability, judged by Cronbach alphas, revealed a satisfactory coefficient of 0.60 or above across all items, except for the BI and RE scales (Table 5.5). Prior empirical evidence suggests that reversed wording leads to potential confusion, larger standard deviations, and poor reliability (Herche and Engelland, 1996, Swain, Weathers and Niedrich, 2008). By removing reversed items from the BI and RE, the Cronbach alphas increased for each of the scales (BI $\alpha= 0.787$; RE $\alpha=0.748$). However, as a general rule, factors that have two or fewer variables should be interpreted with caution (Tabachnick and Fidell, 2007). The Cronbach alpha coefficients for all scales are shown in Table 5.5.

Variables	Cronbach's Alpha	N of Items
Perceived severity (PS)	.925	3
Fear	.865	3
Challenge	.872	4
Perceived benefits (PB)	.988	7
Behavioural intentions (BI)	.274	3
Behavioural intentions (BI)	.787	2
Response efficacy (RE)	.305	3
Response efficacy (RE)	.748	2
Systematic mode and depth of information processing (SMIP)	.866	4
Self- accountability (SA)	.629	3
Attitude towards advertisement (AT)	.897	3
Involvement (INV)	.878	4
Tolerance for negative emotions (TNE)	.791	5
Tolerance for ambiguity (TA)	.846	8
Tolerance for ambiguity (TA)	.917	6

Note: Low Cronbach alpha coefficients are marked in red; alternative Cronbach alpha coefficients if items removed are in bold.

Next, a preliminary empirical test was conducted regarding whether perceived susceptibility to gambling threats and perceived benefits of help-seeking measures

exhibited acceptable predictive validity in evoking fear and challenge in respondents as postulated by the CPHTE.

5.4. Predictive Validity Testing: Perceived Susceptibility and Perceived Help-Seeking Benefits as Antecedents of Fear and Challenge Elicitation in the Advertisement Stimuli Designed for Gambling Context

Having established convergent validity of measures outlined in the questionnaire, two main effects were assessed in order to establish preliminary empirical evidence that pre-selected advertising stimuli were conceptually adapted for the gambling context in accordance with the CPHTE (Lazarus and Folkman, 1984, Lazarus et al., 1980) and the RPMM (Arthur and Quester 2004). In particular, as predicted by the CPHTE (Lazarus et al., 1980), appraisals of anticipated harm/threats (i.e., perceived susceptibility to problem gambling risks) result in fear elicitation and appraisals of difficult, yet-possible-to-attain benefits (i.e., help-seeking benefits) in a stressful context result in hopefulness, determination, inspiration and eagerness, which accompany an ambiguous positive state of challenge. Hence, in order to test that the designed advertisement stimuli depicted meaningful gambling threats, as well as perceived help-seeking benefits (PB), by evoking fear, challenge, or fear mixed with challenge, the main effects between perceived susceptibility (PS) and fear (F) elicitation and perceived benefits (PB) and challenge elicitation (Ch) were tested with 131 respondents (Figure 5.1).

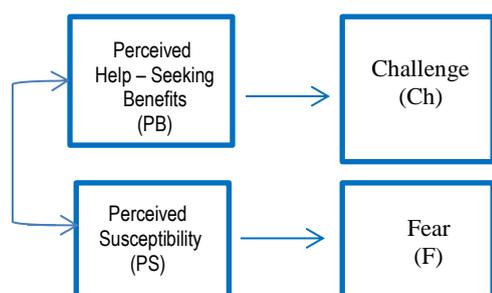


Figure 5.1: Perceived Susceptibility and Perceived Help-Seeking Benefits as Antecedents of Evoked Fear and Challenge in Advertising Stimuli Designed for the Study

The main effects between $PB \rightarrow Ch$ and $PS \rightarrow F$ were estimated by structural equation modelling (SEM) using *Mplus7* (Muthén and Muthén, 1998-2012) statistical software. SEM represents a multivariate technique which combines confirmatory factor analysis (CFA) and multiple regressions in one model, simultaneously examining the series of interdependence and dependence relationships (i.e., regressions) amongst variables (Hair,

Black, Babin and Anderson, 2010). Overall, SEM will be discussed in greater detail in chapter 6 in regards to assessment of the main conceptual model described in chapter 3. However, for the purpose of establishing predictive validity of pre-selected advertising stimuli, the main elements of SEM assessments are briefly discussed in this chapter. Specifically, all variables displayed in Figure 5.1 were measured through multiple items and modelled as latent constructs. First, measurement models were specified using CFA by assigning the underlying indicator variables to corresponding latent constructs. For example, evoked challenge as a latent variable was measured through indicator items such as feeling hopeful, determined, inspired, and eager. Similarly, the latent construct of fear was measured by indicator items such as scared, fearful, and afraid. Likewise, perceived susceptibility (PS) was measured by three indicator items (i.e., PS1 - “If I keep gambling like I am; I could suffer the same fate as the person in the ad”), whereas perceived help-seeking benefits (PB) were measured by seven indicator items (i.e., PB1 - “The people who care most about me would approve if I 'Set Myself Free' from gambling as the ad suggests”) described earlier in this chapter. Results displayed in Table 5.6 show that both multivariate skewness and kurtosis are statistically significant, indicating violation of the multivariate normality assumption in the data. Hence, robust maximum likelihood estimator (MLR) was chosen to estimate the model. MLR is an extension of the Satorra-Bentler chi-square which gives maximum likelihood parameter estimates and provides standard errors and χ^2 test statistics that are robust to data non-normality and is recommended for small sample sizes (Yuan and Bentler, 2000).

Table 5.6: Multivariate Normality Test			
Two-sided multivariate skew test of fit			
Sample value	Mean	Standard Deviation	<i>P value</i>
127.235	43.306	2.132	0.0000
Two-sided multivariate kurtosis test of fit			
448.829	318.052	3.561	0.0000

Note: N=131

The measurement model exhibited satisfactory fit as judged by the chi-square (χ^2) statistic, Root Mean Square Error of Approximation (RMSEA), Standardised Root Mean Square Residual (SRMSR), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI). In particular, the model fits the data well with no error covariance specified: MLR $\chi^2 = 153.717$, $df = 113$, $p = 0.0065$, RMSEA = 0.052, (90% CI: 0.029; 0.072), close-test p value

= 0.408, CFI = 0.978, TLI = 0.973 and SRMSR = 0.038. When a robust estimator, such as MLR, is used for model estimation, a scale difference in χ^2 should be computed for nested model comparison (Wang and Wang, 2012). Following Wang and Wang (2012), the CFA model was rerun with equality restrictions on factor loadings to each factor and a likelihood ratio (LR) test was conducted to test whether indicators of each factor were equally loaded on the underlying factor. The measurement model with restricted factor loadings had acceptable fit (MLR $\chi^2 = 187.889$, $df = 122$, $p = 0.0001$, RMSEA = 0.064, (90% CI: 0.045; 0.082), close-test p value = 0.102, CFI = 0.964, TLI = 0.960, SRMSR = 0.052).

Next, the scaled difference in χ^2 s for model comparison was calculated using the following formula (Wang and Wang, 2012):

$$TR_d = (T_0 - T_1) / C_d$$

Where TR_d is the scaled difference in χ^2 s, T_0 is the ML χ^2 statistic for the H_0 model (i.e., model with restricted factor loadings), T_1 is the ML χ^2 statistic¹ for the H_A model (i.e., model with unrestricted factor loadings) and C_d is the difference test scaling correction.

$$C_d = [(d_0 * c_0) - (d_1 * c_1)] / (d_0 - d_1)$$

Where d_0 and c_0 are the degrees of freedom (df) and scaling correction factor for the H_0 model and d_1 and c_1 are the df and the scaling correction factor for the H_A model (Table 5.7). Substituting the corresponding values displayed in Table 5.7 into the following equations, C_d (0.7952) and TR_d values were calculated: $TR_d = (T_0 - T_1) (d_0 - d_1) / [(d_0 * c_0) - (d_1 * c_1)] = 42.2394$

Table 5.7: Calculations of Scaled Difference in χ^2 Test for Nested Comparison Using Robust Estimator (MLR)				
H _A model				
MLR		ML		
T_1^*	d_1	c_1	$T_1 (T_1^* * c_1)$	d_1
153.717	113	1.111	170.779	113
H ₀ model				
MLR		ML		
T_0^*	d_0	c_0	$T_0 (T_0^* * c_0)$	d_0
187.889	122	1.087	204.366	122

Notes: H_A model, four factor CFA with unrestricted factor loadings; T_1 , ML χ^2 statistic for H_A model; T_1^* MLR χ^2 statistic for H_A model; d_1 , df for H_A model; c_1 scaling correction factor for H_A model; H₀ model, four factor CFA with restricted factor loadings; T_0 , ML χ^2 statistic for H₀ model; T_0^* MLR χ^2 statistic for H₀ model; d_0 , df for H₀ model; c_0 scaling correction factor for H₀ model.

¹ML χ^2 (T) is the product of MLR χ^2 (T*) and the scaling corrector factor (C).

For this χ^2 test, $df = 122 - 113 = 9$. The χ^2 is statistically significant ($p < 0.00001$) at the 0.05 level. Thus, restricting factor loadings make model fit significantly inferior in comparison to unconstrained model. In other words, indicator items do not have identical factor loadings on underlying factors and the model with unrestricted factor loadings (i.e., H_A) fits the data better than the model with restricted factor loadings (i.e., H_0).

Next, the preferred model was assessed for construct validity, which comprised convergent and discriminant validity. Convergent validity was assessed through standardised factor loadings, construct reliability (CR), and average variance extracted (AVE). Standardised loadings specify the strength of the relationship between a construct and its indicators. AVE measures the amount of variance captured by the indicators relative to measurement error. AVE was calculated as a sum of squared standardised factor loadings and divided by the number of manifest variables (Hair et al., 2010). Table 5.8 shows that all manifest variables exhibited high (i.e., above 0.7) and significant standardised factor loadings with t -values above 2.0. All constructs exhibited sufficient AVE well above 50% and all CR coefficients were consistently above 0.70, as recommended by Hair et al. (2010).

Latent variables	Indicator variables	Unstandardised regression weights (b)	Standardised regression weights (β)	t value	p	AVE	CR
Perceived severity (PS)	PS1	1.000 ¹	0.940	-	-	0.809	0.927
	PS2	1.058	0.926	27.374	0.000		
	PS3	0.851	0.829	31.836	0.000		
Fear (F)	Scared	1.000 ¹	0.930	-	-	0.827	0.935
	Fearful	1.008	0.917	13.017	0.000		
	Afraid	0.975	0.881	11.922	0.000		
Challenge (Ch)	Determined	1.000 ¹	0.777	-	-	0.634	0.874
	Hopeful Eager	1.003	0.777	11.439	0.000		
	Inspired	0.959	0.818	8.226	0.000		
		1.049	0.806	10.715	0.000		
Perceived benefits (PB)	PB1	1.000 ¹	0.974	-	-	0.920	0.988
	PB2	0.961	0.968	43.960	0.000		
	PB3	0.844	0.894	25.224	0.000		
	PB4	0.958	0.970	47.071	0.000		
	PB5	0.994	0.986	81.659	0.000		
	PB6	0.900	0.939	33.804	0.000		
	PB7	1.002	0.983	90.270	0.000		

Note: ¹ - Factor loadings constrained to one to set the scale for the latent construct. Hence, the p value is not calculated

Discriminant validity was examined using Fornell and Larcker (1981) criterion which postulates that items should load highly on their respective construct.

In other words, average variance shared between each construct and its measures should be greater than variance shared between constructs (Fornell and Larcker, 1981). Table 5.9 shows that the square roots of AVE (marked in bold) are greater than correlation values either across row or column. Moreover, estimated correlations between the factors are not exceedingly high (i.e., 0.85) demonstrating that indicator items measure distinctly different constructs (Kline, 2011).

Latent variables	Perceived severity (PS)	Fear (F)	Challenge (CH)	Perceived benefits (PB)
Perceived severity (PS)	0.900			
Fear (F)	0.191	0.909		
Challenge (Ch)	-0.137	0.415	0.796	
Perceived benefits (PB)	-0.409	-0.780	0.334	0.959

Note: Diagonals (in bold) represents square root of AVE while off diagonals represent correlations

After confirming convergent and discriminant validity of a measurement model, the structural equation part of a model was estimated by regressing endogenous latent variables, such as F and Ch, on the exogenous latent variables, such as PS and PB (i.e., main effects of PS→F and PB → Ch). Next, structural nested models were compared based on corrected MLR χ^2 difference tests ($\Delta\chi^2$ (*df*)). The model fit of the unconstrained model is considered acceptable: MLR $\chi^2 = 1984.1$ *df* = 136, *p* = 0.0000, RMSEA = 0.064, (90% CI: 0.045; 0.082), close-test *p* value = 0.108, CFI = 0.966, TLI = 0.960 and SRMR = 0.092. Although some authors recommend that the value of SRMR should be less than 0.08 (Hu and Bentler, 1999), Kline (2011) states that SRMR less than 0.10 are generally considered favourable. The model with constrained structural path exhibited marginal fit: MLR $\chi^2 = 1984.111$ *df* = 136, *p* = 0.0000, RMSEA = 0.066, (90% CI: 0.047; 0.084), close-test *p* value = 0.081, CFI = 0.964, TLI = 0.958 and SRMR = 0.100.

Next, scaled difference in χ^2 for model comparison was calculated using the previously described formula, where $C_d = 0.9506$ and $TRd = 0.3670$. For this χ^2 test, *df* = 117 – 116 = 1. The *p* value is 0.020521 and significant at *p* < 0.05. Thus, the model with unconstrained structural path is preferred as it fits the data significantly better than the model with a constrained structural path. Measurement and structural portions of the preferred model are shown in Table 5.10.

The measurement portion of the model contains relationships between the observed items and underlying constructs, whereas the structural portion of the model contains relationships (i.e., paths) between latent exogenous and endogenous variables.

Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Perceived severity (PS)	PS1	1.000 ¹	0.940	-	-
	PS2	1.058	0.921	27.374	0.000
	PS3	0.851	0.885	31.836	0.000
Fear (F)	Scared	1.000 ¹	0.923	-	-
	Fearful	1.020	0.921	27.374	0.000
	Afraid	0.988	0.885	31.836	0.000
Challenge (CH)	Determined	1.000 ¹	0.765	-	-
	Hopeful	1.018	0.776	12.765	0.000
	Eager	0.967	0.811	13.510	0.000
	Inspired	1.090	0.825	13.520	0.000
Perceived benefits (PB)	PB1	1.000 ¹	0.976	-	-
	PB2	0.955	0.964	70.280	0.000
	PB3	0.843	0.895	31.657	0.000
	PB4	0.952	0.966	80.674	0.000
	PB5	0.991	0.986	250.180	0.000
	PB6	0.899	0.940	44.460	0.000
	PB7	1.000	0.984	159.471	0.000
Paths					
Perceived severity (PS)→ Fear		0.169	0.208	2.191	0.028
Perceived benefits (PB)→ Challenge		0.181	0.324	3.933	0.000

Note: ¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated.

The effects of PS on F are positive and significant ($\beta = 0.208$, $p = 0.028$), indicating that threats portrayed in the advertising stimuli elicit fear, whereas assessment of perceived help-seeking benefits evoke positive emotions which accompany a positive state of challenge (i.e., determined, eager, inspired, and hopeful) ($\beta = 0.321$, $p = 0.000$) (see paths in Table 5.10). The percentage of explained variation in Ch ($R^2 = 0.103$) and the corresponding figure is $R^2 = 0.043$ for F.

In conclusion, these preliminary empirical findings indicate that pre-selected advertising stimuli were designed and conceptually adapted for the gambling context in accordance with the CPHTTE (Lazarus and Folkman, 1984, Lazarus et al., 1980) and the RPMM (Arthur and Quester, 2004). Next, manipulation checks were performed to test whether the designed advertising stimuli differentiate among each other in eliciting predominately fear, challenge, or fear mixed with challenge.

Randomly assigned, 39 respondents were exposed to the fear appeal, 49 respondents were shown the challenge appeal, and 43 respondents were presented with the fear mixed with challenge appeal for further assessment.

5.5. Pilot Test Two: Manipulation Checks

Similar to the first pilot test, fear ($\alpha=0.865$) and challenge ($\alpha =0.872$) indices were calculated to assess evoked emotions after stimuli exposure. Previous empirical evidence suggests that fear is not the only emotion associated with risk behaviours. Following Carrera et al. (2010), the sadness item was included in the fear index, based on high overlap between evoked fear and evoked sadness among respondents. In general, the level of overlap between emotional categories, such as fear and sadness, is high given that these categories have fuzzy boundaries (Clore and Huntsinger, 2009). Similarly, Wauters et al. (2011) measured the amount of evoked fear by summing fearful, repulsing, and upsetting/disturbing emotional items to signify that fear appeals tend to elicit multiple negative emotions. The Wilcoxon signed-rank test showed no significant difference ($z = -0.888, p > 0.05$) between felt challenge ($M = 3.78$) and felt fear indices ($M = 4.13$) in an appeal featuring a person trying to get away from “a pokie machine” with captions “You may be trapped forever... Set yourself free”, thus best representing an emotional appeal that evoked a mixture of both fear and challenge emotions. The advertisement stimulus portraying an image of genderless silhouette of a person trying to get out of “the pokie machine” with captions “Set yourself Free from gambling! You can still beat it!” showed significant difference ($z = -2.067, p < 0.05$) between felt challenge ($M = 4.12$) and felt fear indices ($M = 3.26$) confirming that such stimuli is perceived as a challenge appeal. Similarly, the advertisement treatment portraying a person laying in a destitute position on the floor with captions “Gambling strips away your money, self-control, friends, until there is nothing left to lose” revealed significant difference ($z = -4.590, p < 0.05$) in felt fear ($M = 4.18$) and felt challenge indices ($M = 2.63$) confirming that it is perceived as a fear appeal by respondents (Appendix 5.10).

Next, frequencies and histograms of fear and challenge indices, split by appeal type, were examined to confirm distribution differences in felt challenge and felt fear amongst respondents (Appendices 5.11. A, B, C).

5.6. Summary

The second pilot test provided preliminary empirical evidence suggesting that pre-selected advertising stimuli were designed in accordance with CPHTE (Lazarus and Folkman, 1984, Lazarus et al., 1980) and RPMM (Arthur and Quester, 2004) and successfully adapted for the gambling context. In particular, main effects of PS→F and PB→CH were positive and significant; indicating that threat and help-seeking benefit appraisals evoked fear and challenge in a sample of Australian gamblers exposed to the advertising stimuli. The results of statistical analysis based on two pilot tests conducted with 327 respondents quantitatively support qualitative insights from our focus group discussions conducted with 43 gamblers. Furthermore, both pilot tests confirmed, through manipulation checks, that the designed advertising stimuli were capable of eliciting fear, or challenge, or fear mixed with challenge in respondents. Another objective of the pilot tests was to refine the questionnaire and increase its quality through identifying unreliable measurement instruments (i.e., response efficacy and behavioural intentions) before the main data collection. Overall, the pilot tests have ensured that the majority of the proposed measurement instruments were reliable, valid, and capable of capturing the desired theoretical constructs. The next chapter reports on the main quantitative data collection stage (i.e., sample characteristics, validity, and reliability of measurement instruments).

Chapter 6: Methodology of the Main Study

6.1. Introduction

Chapter six describes the main data collection stage of the current research. This chapter starts with the brief description of the research design and data collection method, and continues with an explanation of sample size determination, sampling procedures, and questionnaire content. Chapter six also reports on the social-demographic characteristics of the respondents, and discusses the reliability and validity of the measurement instruments and assessment of data normality. Furthermore, this chapter provides the results of manipulation checks to insure that fear, challenge, and fear mixed with challenge were induced in the respondents after viewing randomly selected advertisement stimuli.

6.2. Research Design and Data Collection Method

A web-based survey with a quasi-experiment was adopted for this research and was expected to produce a collection of experimental subjects representative of the target population (i.e., low risk, moderate risk, and problem gamblers) since the web-based survey format insures greater access to gambling participants (Wood and Griffiths, 2007). The hybrid methodology (i.e., web-based survey with quasi-experiment) enables experimental subjects to be randomly assigned to conditions, or variations of the independent variables, in order to observe their effect on a dependent variable (Mutz, 2011). Variations of independent variables (IV) include evoked emotions such as fear, challenge, or fear mixed with challenge induced in respondents after viewing advertising stimuli. Each respondent was exposed to one experimental condition (i.e., one emotional advertising stimulus). The post-test examines the effects of the IVs on the dependent outcome variable such as help-seeking behavioural intentions. While a quasi-experiment design does not allow making definitive causal inferences, as pre-test is not included in the design, the study still meets an important requirement for causality since the intervention (i.e., exposure to advertising stimuli eliciting different emotions) precedes the measurement of outcomes (i.e., intentions to seek help). Moreover, the quasi-experimental design can demonstrate that the impact on the final outcome variable can vary statistically with the different exposures (i.e., felt fear, or challenge, or fear mixed with challenge)

(Shadish, Cook and Campbell, 2002). Additionally, randomisation enhances the internal validity of this study. On average, randomisation tends to consistently distribute both known and unknown confounding variables, allowing to suggest that observed changes in the dependent variable are influenced by an exposure (Shadish et al., 2002). Since the aim of this study is not to simply confirm the impact of various emotions on help-seeking behavioural intentions in consumers, but to examine more comprehensively which factors mediate the influence of emotions on behavioural intentions, a more sophisticated analysis was undertaken using Structural Equation Modelling (SEM). Since SEM is an inexact, non-deterministic, and flexible model, and does not demonstrate causation directly (Kline, 2011), inferences about the postulated relationships, based on the patterns observed in the collected data, should be interpreted accordingly.

6.3. Sample Size Determination

The sample size for the web-based survey was determined based on several criteria: 1) desired statistical power; 2) expected effect size, and 3) statistical technique for data analysis. Statistical power indicates the probability that statistical test correctly rejects the null hypothesis, while the effect size indicates the strength of the relationships between the tested variables (i.e., 0.1 – small, 0.3- medium, 0.5 – large) (Cohen, 1988). As the main objective of this study is to examine the mediating and moderating factors that influence the impact of various emotions on behavioural intentions, a more sophisticated analysis, such as SEM, was chosen as a priority technique for data analysis.

Despite the fact that appropriate sample size determination is a crucial issue in any research, the specific sample size requirements for SEM-based studies remain controversial (Westland, 2010), as there is no absolute standard in regard to an adequate sample size and no rule of thumb that applies to all situations in SEM (Muthén and Muthén, 2002). Westland (2010) proposes that in order to estimate the required sample size for SEM, a prospective power analysis should be calculated based on the estimations of the error function, lower bound sample size for a structural equation model, and normal distribution cumulative distribution function (see Appendix 6.1 for formulas). These formulas were incorporated into an a-priori sample size calculator for structural equation models (Soper, 2015), available from <http://www.danielsoper.com/statcalc>.

The following parameter values were supplied to calculate the optimal sample size: the number of observed (39) and latent variables (10) in the model, the anticipated effect size (0.3), the desired probability (0.05), and statistical power level (0.8). By convention, the desired probability value also known as the p -value, alpha level, or type I error rate, should be less than or equal to 0.05 to claim statistical significance (Cohen, 1988). Statistical power levels for the behavioural science research should be greater than, or equal to 0.80 (Cohen, 1988). Based on the a-priori calculator computations for the current study, the minimum sample size required to detect the specified effects was 67 respondents, and the recommended minimum sample size for model structure was 106 respondents. As the study estimates the impact of evoked emotions on behavioural intentions through several models (i.e., fear, challenge, fear mixed with challenge, and a model which combines all emotional effects), then the minimum sample size for SEM should be at least 424 respondents. Hence, the data collection by means of a web-based survey was guided by these recommended quotas.

6.4. Sampling, Procedures, and Questionnaire Content

As with the second pilot tests, the online questionnaire was prepared using Qualtrics on-line survey software (Appendix 6.2). The questionnaire consisted of the multi-item measurement scales described previously in chapter five. The two unreliable measurement instruments identified in the second pilot test (i.e., response efficacy, and behaviour intentions) were replaced. The alternative measurement instrument for *help-seeking behavioural intention* was adapted from Wong and Cappella (2009) and included three items including “How likely, that in the next three months you will” a) seek counselling/support to help you with gambling habits if needed, b) enrol in a gambling program if one were available to you at minimal cost and easy access, and c) ring the designated gambling support centre to learn more about services to help people with their gambling habit. These items were measured on 9-point scale anchored in ‘not at all likely’ (1) to ‘very much likely’ (9).

The alternative measurement instrument for *response efficacy* was adapted from Feng and Burleson (2008) with four items including: “I believe that the advised action to ring help and support centre is one of the options to address gambling concerns”; “I perceive that the advised action in the ad to seek professional help could solve gambling problems”; “ I

think those people who do seek help can avoid the potential problems with gambling”;“Calling a helpline is an efficacious way to face problem gambling.” These items were measured on 9-point scale anchored ‘not at all likely’ (1) to ‘very much likely’ (9). Additionally, an alternative measure of *involvement with the advertisement* ($\alpha = 0.94$) was adopted from Laczniak et al. (1999) and included the following four items: “How much attention you paid to process the advertisement?”; “How engaging it was for you to process the advertisement?”; “What was the overall attention you had with the advertisement?”; “How involving it was for you to process the advertisement?” These items were measured on 9-point scale anchored ‘not at all’ (1) to ‘very much’ (9).

A marketing agency recruited respondents from different Australian states. Inclusion criteria were based on the age and the frequencies of gambling activities each participant had been engaged in in the last 12 months via any means (i.e., casino, pub, on-line). As with the pilot tests, gambling activities included card games (i.e., Poker or Blackjack), poker machines, racing (horses, dogs), sports (not including horses or dogs), Crosslotto, Powerball or Pools, Keno, scratch tickets or Bingo. Those respondents, who reported that they gambled on a daily basis, or at least 2-5 times a week, were selected for the gamblers panel. Respondents were identified by a user-defined code, thus ensuring their anonymity. Next, respondents were asked to indicate the year of their birth, to ensure that participants were older than 18 years to take part in the survey, as required by the Human Research Ethic Committee. Individuals who chose to click on the survey link were directed to the Letter of Information which provided more details about the study. After reading the Letter of Information, participants were able to indicate consent by clicking “I agree to participate” at the bottom of the page, which linked to the survey. Participants who clicked “I do not agree to participate” were not able to continue to the survey. Annual household income, education level, race, and gender questions were asked next.

The third questionnaire block displayed the pre-selected advertising stimuli described in chapter 5. Randomly selected, only one out of five advertising stimuli was presented to each participant. Respondents were instructed to form an impression of the ad and view it as they would normally view an advertisement in a magazine. Participants indicated the degree to which they experienced a set of emotions in response to each advertisement (1=not at all; 9 =very much). As with the pilot tests, items such as ‘determined’, ‘hopeful’, ‘inspired’, and ‘eager’ were used to measure the positive emotional state of challenge

(Schneider et al., 2009, Folkman and Lazarus, 1985). Items such as ‘fearful’, ‘afraid’, and ‘scared’ (Dillard and Peck, 2001) were used to measure evoked fear. As done previously, these emotional items were used to create emotional indices. Averaging the ‘determined’, ‘hopeful’, ‘eager’ and ‘inspired’ items created the challenge index. Averaging the ‘fearful’, ‘afraid’, and ‘scared’ items created the fear index. Next, respondents were prompted to indicate their first and strongest reaction to the advertising stimulus with three options to choose from (i.e., This ad makes me feel: a) Mostly negative emotions such as scared, afraid, fearful; b) A comparable mixture of both positive and negative emotions (i.e., scared and hopeful or fearful and determined); or c) Mostly positive emotions such as inspired, determined, and hopeful.

The next questionnaire block included measurement instruments including response efficacy, attitude towards the advertisement, and involvement with the advertisement, systematic mode and depth of information processing, help-seeking behavioural intentions, self - accountability, tolerance of negative emotions, and tolerance of ambiguity. As with the pilot test, the Canadian Problem Gambling Index ($\alpha=0.955$) (Ferris and Wynne, 2001) was included at the end of questionnaire in order to obtain problem gambling prevalence rates among the recruited participants. All variables within the block were randomised to minimise the impact of order effects. Respondents were also required to answer each question in order to complete the questionnaire (i.e., a forced response option) to avoid any missing data. As required by the Human Research Ethics Committee, the last questionnaire block displayed a gambling help service directory card (Australia-wide). Additionally, a number of filters (i.e., question response, completion status, overall time spend to complete the survey) were embedded into the survey flow to retain accurate responses and discharge incomplete responses during the data collection stage. Once the data collection was finished, it was exported into SPSS 20 for preliminary analysis.

6.4.1. Sample Characteristics

Four hundred and fifty five respondents completed the web-based survey. The total sample consisted of two hundred and twenty seven males (49.9%) and two hundred and twenty eight females (50.1%) with the mean age of 33.87. As previously described in chapter 5, problem gambling prevalence rates among the recruited participants were assessed with the Canadian Problem Gambling Index (CPGI) (Ferris and Wynne, 2001). Nine items from CPGI were summed and cut-off scores were applied, by which a score of 0 identifies non-

problem gamblers, 1-2 low-risk gamblers (24.2 % of respondents), 3-7 moderate risk gamblers (31% of respondents), and a score of 8-27 identifies problem gamblers (44.8% of respondents) (Table 6.1). Among the reported gambling activities, Crosslotto, Powerball and Pools yielded the highest mean (M=3.27), followed by poker machines (M = 2.85) (Table 6.1).

Gambling status of the participants:		Frequency	Percent	Valid Percent	Cumulative Percent			
Low risk gamblers		110	24.2	24.2	24.2			
Moderate risk gamblers		141	31.0	31.0	55.2			
Problem gamblers		204	44.8	44.8	100.0			
Total		455	100.0	100.0				
Types of gambling activities:								
Card games	Poker-machines	Racing	Sports betting	Crosslotto, Powerball, Pools	Keno	Scratch tickets	Bingo	
Mean	2.09	2.85	2.49	2.11	3.27	2.27	2.69	1.82

The majority of the respondents identified themselves as Causations (84.6 %). The largest percent of respondents had an education level of high school or below (38.2 %) and followed by 32.3% of respondents who finished trade and vocational schools (Appendix 6.3).

6.4.2. Validity and Reliability

As with the pilot tests described in chapter five, all variables designated for latent constructs to be assessed by SEM were pulled together into an EFA to examine their factorability and discriminant validity. The data set was randomly split and 50% of cases (i.e., 233 cases) were selected for this EFA. As with the pilot tests, the chosen extraction method was principal axis factoring, combined with Promax rotation, since this combination accounts for data non-normality and co-variation. Criteria similar to those applied during the analysis of the pilot tests were used to judge the results of EFA. These were: 1) the Kaiser-Meyer-Olkin (KMO) 0.6 or above (Tabachnick and Fidell, 2007); 2) the Bartlett's test of sphericity with $p < 0.05$ (Tabachnick and Fidell 2007); 3) eigenvalues above 1.00 (Pallant 2007) or alternately, Jolliffe's (1972, 2002) criterion allows retaining factors with eigenvalues above 0.70 (Jolliffe, 1972, 2002); and 4) communalities 0.30 or above (Pallant 2007); and item loadings from 0.30 to 0.70 or higher (Costello and Osborne

2005). Internal consistency of the scales judged by the Cronbach Alpha coefficients should be at least 0.60 (Pallant, 2007, DeVellis, 2003). The EFA yielded satisfactory Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.851) and statistically significant Bartlett's Test of Sphericity with $p < 0.05$ (Appendix 6.4). The EFA produced 10 factors and generally confirmed the expected scales dimensionality (Table 6.2). The cumulative percent of variance explained by the 10 factors was acceptable (61.40 %). The first factor grouped four items measuring tolerance for negative emotion (TNE) and six reverse-scaled items from tolerance for ambiguity scale (TA) explaining 21.64% of variance. It was expected that TNE and TA items can form a single factor as they both belong to a global hierarchical experiential (in)tolerance construct, however, each construct was considered as lower-order, domain-specific dimension (Zvolensky et al. (2010). The second factor grouped attitude towards advertisement items (AT) (10.62% of variance explained). The third factor clustered items from the involvement with advertisement scale (INV) (8.45% of variance explained).

Items such as determined, inspired, eager, and hopeful congregated together as the fourth factor (5.50% of variance explained), whereas fearful, scared, and afraid items formed the fifth factor (4.12% of variance explained), exhibiting the highest loadings (.998) among the tested scales. The sixth factor grouped items from the help-seeking behavioural intention scale (3.49% of variance explained) and the seventh factor was formed by the three items of the self - accountability scale (SA) (2.28% of variance explained). The eighth factor comprised of four items from the response efficacy scale (RE) (2.07% of variance explained). Three items measuring the systematic mode (i.e., After seeing the ad, I thought about what it had to say; I reflected about the messages in this ad, even though I may not agree with them; I tried to think about the importance of the information enclosed in the ad for my daily life) and two items measuring the depth of processing (i.e., I thought seriously about how the information in the ad may apply to me personally; the information in the ad gave me a better/broader understanding of the potential issues related to gambling) formed the ninth factor (1.68% of variance explained), only marginally satisfying Jolliffe's criterion (eigenvalue .706), and exhibiting acceptable, yet the lowest (.353), loadings among all variables. Lastly, the tenth factor grouped two positively-worded items from the TA scale, thus displaying TA's domain-specific difference from the TNE scale. However, this last factor produced the lowest eigenvalue of .634, hence not passing the threshold of Jolliffe's criterion (i.e., eigenvalues above .70) and explained only 1.51% of variance.

Variables:	Extracted Factors									
	1	2	3	4	5	6	7	8	9	10
Determined				.756						
Hopeful				.816						
Eager				.721						
Inspired				.866						
Scared					.998					
Fearful					.918					
Afraid					.915					
After seeing the ad, I thought about what it had to say.										.353
I thought seriously about how the information in the ad may apply to me personally.										.695
The information in the ad gave me a better/broader understanding of the potential issues related to gambling.										.398
I reflected about the messages in this ad, even though I may not agree with them.										.359
I tried to think about the importance of the information enclosed in the ad for my daily life.										.635
How much did the ad make you feel that, at some point, you may change your gambling behaviour?		.736								
How much did the ad make you feel that you did not want to gamble in the future?		.786								
To what extent did the ad make you feel that you should try to seek professional assistance with gambling?		.774								
To what extent did the ad make you feel motivated to call gambling help and support centre?		.895								
How likely is it that in the future (e.g. next 3 months) you will:-Seek counselling/support to help you with gambling habits if needed.						.803				
Enrol in a gambling help and support program if one were available to you at minimal cost and easy access.						.840				
Ring to the designated gambling support centre to learn more about services to help people with their gambling habit						.860				
I believe that the advised action to ring help and support centre is one of the options to address gambling concerns.										.463
I perceive that the advised action in the ad to seek professional help could solve gambling problems.										.589
Calling to a helpline is an efficacious way to face problem gambling.										.441
I think those people who do seek help can avoid the potential problems with gambling.										.618
How much attention you paid to process the advertisement?				.796						
How engaging it was for you to process the advertisement?				.894						
What was the overall attention you had with the advertisement?				.769						
How involving it was for you to process the advertisement?				.781						
How responsible are you in protecting yourself from the potential risks associated with gambling?								.759		
How strongly do you feel that it is your responsibility to seek help with gambling when needed?								.683		
How responsible are you for the consequences of your gambling?								.819		
I can't handle feeling distressed or upset.		.702								
I am ashamed of myself when I feel distressed of upset.		.549								
Being distressed scares me.		.573 ¹								.317 ¹
I'll do anything to avoid feeling distressed or upset.		.605								
I like it when the situations can be interpreted in more than one way.										.768
I enjoy tackling problems which are complex with no clear answers.										.547
I can't tolerate ambiguous situations (reverse-scored).		-.773								
I try to avoid situations that are ambiguous (reverse-scored).		-.787								
I feel threatened when problems are not just 'black and white' (reverse-scored).		-.737								
I avoid situations that are complicated and not easily understood (reverse-scored).		-.654								
I try to avoid problems which do not seem to have only one "best" solution (reverse-scored).		-.649								
I find it hard to make a decision when the outcome is uncertain (reverse-scored).		-.794								
Percent of variance per factor	21.64	10.62	8.45	5.50	4.12	3.49	2.28	2.07	1.68	1.51
<i>Eigenvalues</i>	9.09	4.46	3.55	2.31	1.73	1.46	.958	.872	.706	.634 ¹

Note:¹ Cross-loadings and eigenvalues below 0.70 are marked in red

Even though most variables' communalities were above 0.30, several of them exhibited rather low communalities (Appendix 6.4). For example, one item from the TNE scale (i.e., When I feel distressed or upset, I must do something about it immediately) demonstrated communalities below the accepted threshold (.283) and also cross-loaded on TA scale (0.410). Removing this item from the scale improved the Cronbach alpha value from .747 to .779. Likewise, removing two items from the TA scale improved the overall Cronbach alpha value of the TNE scale from .791 to .876 (Table 6.3). Another item for the TNE scale (i.e., Being distressed scares me) cross-loaded (.317) on SMIP scale; however, the item was retained as its removal from the scale lowered the overall Cronbach alpha value (Table 6.3). Likewise, another item from the systematic mode of information processing (i.e., I reflected about the messages in this ad, even though I may not agree with them) had a low communality of .243. However the item was retained for further CFA analysis as its removal decreased the scale's Cronbach alpha value (Table 6.3).

Table 6.3: Cronbach Alpha Coefficients for Likert Items: TNE, CH, F, BI, RE, SMIP, AT, INV, SA

Variables	Cronbach's Alpha	N of Items
Tolerance for negative emotions (TNE)	.747	5
Tolerance for negative emotions (TNE)	.779	4
Tolerance for ambiguity (TA)	.791	8
Tolerance for ambiguity (TA)	.876	6
Challenge (CH)	.871	4
Fear (F)	.951	3
Behavioural intention (BI)	.914	3
Response efficacy (RE)	.690	4
Systematic mode/depth of information processing (SMIP/DP)	.727	5
Systematic mode/depth of information processing (SMIP/DP)	.635	4
Attitude towards advertisement (AT)	.929	4
Involvement with advertisement (INV)	.903	4
Self-accountability (SA)	.813	3

Note: Cronbach alpha coefficients if items removed are marked bold

6.4.3. Convergent and Discriminant Validity

As previously discussed in chapter 5, convergent validity is evident when the variables within a single factor are highly correlated with each other, and discriminant validity is evident when variables relate more strongly to their own factor than to another factor (Coakes and Ong, 2011). The factor structure (Table 6.3) demonstrated sufficient loadings within factors and a few cross-loadings between factors, generally supporting the convergent, and discriminant validity of the selected measurement instruments. Moreover, a factor correlation matrix was examined to confirm that the extracted factors were distinct as no correlations between the factors exceeding 0.7 were detected (Coakes and Ong,

2011) (Table 6.4). Theoretically justified, six reverse-scored items of the TA scale and four items from the TNE scale formed one factor. However, two positively worded items from the TA scale grouped into a separate factor; confirming that the TA scale has a domain-specific difference from the TNE scale.

Table 6.4: Factor Correlation Matrix

Factors	TNE/TA (reverse-scored items)	ATT	INV	CH	F	BI	SA	RE	SMIP	TA(positively-worded items)
TNE/TA(reverse-scored items)	1.000	.217	.166	.156	.194	.221	-.037	.009	.219	-.024
ATT	.217	1.000	.428	.403	.300	.567	.000	.152	.533	.164
INV	.166	.428	1.000	.096	.350	.219	.340	.405	.497	.446
CH	.156	.403	.096	1.000	.085	.394	-.101	.091	.196	.147
F	.194	.300	.350	.085	1.000	.211	.104	.125	.363	.226
BI	.221	.567	.219	.394	.211	1.000	.059	.031	.455	.103
SA	-.037	.000	.340	-.101	.104	.059	1.000	.329	.265	.232
RE	.009	.152	.405	.091	.125	.031	.329	1.000	.214	.369
SMIP	.219	.533	.497	.196	.363	.455	.265	.214	1.000	.255
TA (positively -worded items)	-.024	.164	.446	.147	.226	.103	.232	.369	.255	1.000

Notes:

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

6.4.4. Assessment of Data Normality

The descriptive statistics of all variables (i.e., mean, standard deviation, skewness, and kurtosis) were assessed prior to SEM (Appendix 6.5A). This information was instrumental to determine the SEM estimator type to be chosen for the model evaluation. The assessment of data normality was performed using the Kolmogorov-Smirnov statistic, which yielded $p < 0.00$, indicating a non-normal distribution across variables (Appendix 6.5B). Several approaches to deal with data non-normality such as log-transformations, or listwise deletion were considered undesirable. For instance, listwise deletion of non-normal cases could result in non-representativeness of the final sample. Similarly, log-transformed data is known to cause difficulty in interpreting model estimates and cannot facilitate inferences concerning the original data (Feng, Wang, Lu, Chen, He, Lu and Tu, 2014). Hence, the original data set was retained and a robust maximum likelihood estimator (i.e., MLR) was chosen to adjust for data non-normality during SEM estimations.

6.4.5. Manipulation Checks

As a check on emotion type evoked after the ad exposure, respondents rated the extent to which they felt specific emotions after exposure to the randomly assigned advertising

stimuli. First, as described earlier in this chapter in sampling, procedures, and questionnaire content section, respondents indicated on a scale from 1(not at all) to 9 (very much) how ‘determined’, ‘hopeful’, ‘inspired’, ‘eager’, ‘fearful’, ‘afraid’, and ‘scared’ they felt after the ad exposure. These items measuring evoked emotions were used to calculate the fear and challenge indices. Second, respondents were prompted to indicate their reaction to the advertising stimulus with three options to choose from: This ad makes me feel: a) Mostly negative emotions such as ‘scared’, ‘afraid’, ‘fearful’; b) A comparable mixture of both positive and negative emotions (i.e., ‘scared and hopeful’ or ‘fearful and determined’); or c) Mostly positive emotions such as ‘inspired’, ‘determined’, ‘eager’ and ‘hopeful’.

One hundred and forty five respondents indicated that their strongest emotional reaction towards the randomly assigned advertising stimulus was mostly fearful, scared, or afraid. A comparable mixture of both positive and negative emotions (i.e., scared and hopeful or fearful and determined) evoked after the ad exposure was reported by two hundred twenty eight respondents, whereas mostly positive emotions such as inspired, determined, eager, and hopeful, were evoked in eighty two respondents (Appendix 6.5.C). These self-reported assessments of evoked emotions were compared with the results of the challenge and fear indices computed separately. Similarly, as with the pilot tests, after calculating fear ($\alpha=0.941$) and challenge ($\alpha =0.860$) indices, the Wilcoxon signed-rank test was used to detect any differences between the fear and challenge indices estimated for the various ads. The Wilcoxon signed-rank test indicated no significant difference ($z = -1.047, p = 0.295$) between felt challenge ($M= 4.19$) and felt fear indices ($M=4.34$) in respondents who claimed that they predominately felt fear mixed with challenge emotions after the ad exposure, thus supporting the accuracy of respondents self-reported emotional assessment. Furthermore, a significant difference ($z = -7.605, p =0.000$) between felt challenge ($M= 5.06$) and felt fear indices ($M=2.36$) indicated by the Wilcoxon signed-rank test confirmed that respondents who claimed that they predominately felt challenge were accurate in reporting their emotions after the ad exposure. Finally, the test revealed a significant difference ($z = -9.862, p = 0.000$) in felt fear ($M= 5.84$) and felt challenge indices ($M= 2.8017$) among respondents who claimed that their strongest emotional reaction after the ad exposure was fearful, scared, and afraid (Appendix 6.6).

In addition to assessing positive and negative emotional indices individually, they also were combined to create a measure of *emotional ambivalence*, or the degree to which emotional responses are actually mixed (Williams and Aaker 2002). According to Thompson, Zanna and Griffin (1995) ambivalence is characterised by two conditions: positive and negative emotional components must be of at least moderate intensity, and be of similar magnitude, where both positive and negative emotions are felt to the same degree. The ambivalence index was calculated as a linear function of three times, the conflicting reactions minus the dominant reactions, where whichever of the positive or negative reactions is greater is referred to as dominant reaction (D) and whichever is lesser is referred to as the conflicting reaction (C). Hence, **Ambivalence = 3C – D** (Priester and Petty, 1996).

A one-way between groups ANOVA with post-hoc comparisons was conducted to estimate if there was any difference in the ambivalence index between respondents who reported to feel different emotions after the ad exposure. The Levene's test for homogeneity of variances was not significant ($p=0.722$), confirming that the population variances for each group were approximately equal; hence the interpretation of ANOVA results proceeded (Appendix 6.7). The test results revealed that there was a significant difference in the ambivalence index ($F(2,452) = 20.481, p < .05$), among respondents exposed to different ad stimuli. In particular, the ambivalence index was significantly higher for respondents who claimed that they felt fear mixed with challenge ($M = 4.94; F(1,452) = 40.50, p < .05$) than for those, who reported that they predominately felt fear ($M = 2.34; F(1,452) = 5.28, p < .05$) or challenge ($M = 1.95; F(1,452) = 8.99, p < .05$). Moreover, the results of post-hoc Tukey test confirmed that significantly higher ambivalence was observed in respondents who claimed that they felt mixed emotions in comparison to those who reported that they felt fear or challenge after the ad exposure (Appendix 6.7).

Next, frequencies and histograms of fear and challenge indices were examined to confirm any distribution differences in felt challenge and felt fear among respondents (Appendix 6.8.A, B, C).

6.5. Summary

This chapter has provided a detailed description of the data collection stage, explaining the sample size determination, sampling procedures, and on-line questionnaire content. This chapter also described the socio-economic characteristics and gambling status of the targeted respondents and indicated the types and frequencies of gambling activities prevalent among participants. Furthermore, this chapter outlined what tests were performed to confirm the validity and reliability of research instruments, which served as a necessary check prior to the estimation of the relationships postulated in the conceptual model. Finally, manipulation checks have revealed that respondents felt fear, or challenge, or fear mixed with challenge after ad exposure. This empirical evidence established that three variations of independent variables (i.e., fear, or challenge, or fear mixed with challenge) were distinct and their impact on behavioural intentions could be further investigated. The next chapter reports the empirical results of Kruskal Wallis test, SEM, and Latent Moderated Structural Equations (LMSE).

Chapter 7: Quantitative Analysis and Results

7.1. Introduction

This chapter presents results of the main data analysis. Three statistical techniques were used to estimate the impact of fear, challenge and fear mixed with challenge appeals on help-seeking behavioural intentions: Structural Equation Modelling (SEM), Latent Moderated Structural Equations (LMS), and a non-parametric alternative to analysis of variance (Kruskal Wallis) test. These statistical techniques allowed an in-depth investigation of the impact of various emotions evoked because of the stimuli on consumers' help-seeking behavioural intentions through the mediating variables of modes, depth of information processing and attitudes towards advertisement. In this chapter particular attention is given to the SEM technique that explored the relationships postulated in the conceptual model and the LMS technique, which allowed interpretation of interactions between latent variables postulated in the conceptual model. This chapter also provides detailed information about the steps undertaken to set up, estimate and evaluate the fit of all models. Assessment of validity and reliability of the measurement models was carried out prior to estimation of the structural models with results illustrated in specified appendices.

7.2. Statistical Techniques Selected for Data Analysis

The Kruskal Wallis non-parametric test is equivalent to one-way between-groups analysis of variance (ANOVA) and investigates possible difference between two or more groups (i.e., group of respondents who predominately felt fear, challenge or fear mixed with challenge after ad exposure). As the Kruskal Wallis test accounts only for influence of the exposure and does not allow investigation of all relationships hypothesised in the conceptual model, a second method, SEM was used for in-depth investigation of postulated relationships. As described in chapter five, SEM is an advanced multivariate technique which combines confirmatory factor analysis (CFA) and multiple regressions in one model, simultaneously investigating a series of interdependence and dependence relationships (i.e., regression) amongst variables (Kline, 2011). SEM offers an opportunity to construct unobserved latent variables and estimate relationships among latent constructs that are uncontaminated by measurement errors (Kline 2011); whereas traditional statistical methods (i.e., ANOVA) ignore the potential measurement error of variables included in the

model. In such case, the estimated parameters can be biased and inferences can be misleading (Wang and Wang 2012). Moreover, SEM not only models multiple dependent variables simultaneously, but also tests overall model fit, handles difficult data (i.e., non-normal data) and estimates direct and indirect effects (Wang and Wang 2012), offering state-of-the-art methodology for mediated relationships testing among latent constructs (Iacobucci, Saldanha and Deng, 2007). Furthermore, more advanced methods for estimating and interpreting interactions between latent variables within the SEM framework have recently become available. Although largely unaddressed in marketing literature, the novel Latent Moderated Structural Equations technique (LMS) (Maslowsky, Jager and Hemken, 2014) allows simultaneous investigation of several latent interactions in a model. The additional strength of LMS is to produce estimates of concurrent latent interactions that are unaffected by measurement error which serves to increase a study's power and reduce the likelihood of biased estimates (Little, Bovaird and Widaman, 2006). In contrast to the original LMS technique (Klein and Moosbrugger, 2000), the LMS method allows assessing model fit, producing standardised coefficients and is capable of determining the size of the latent interaction effect (Maslowsky et al. 2014).

Alternatively, a multi-group SEM analysis, using the moderator as the grouping variable and comparing the “main” effects postulated in the conceptual model (i.e., Figure 3.1 in chapter three) across groups can be conducted (Wang and Wang, 2012). This subgroup approach can also be used to compare mediation effects across moderator levels. However, the drawback of the subgroup approach is lower power and loss of information in the grouping variable (Edwards and Lambert, 2007). Moreover, the subgroup approach does not allow estimation of moderating impact of several simultaneous interactions between independent latent variables outlined in the conceptual model (i.e., Figure 3.1 in chapter three) in order to determine the strongest moderating impact among proposed moderators.

Based on the outlined considerations, three statistical techniques, the Kruskal Wallis test, SEM and LMS were chosen for data analysis in this research. Confirmatory factor analysis (CFA), SEM and LMS analyses were performed using *Mplus* version 7 (Muthén and Muthén, 2012) and the Kruskal Wallis test was performed using SPSS version 20 (IBM Corp., 2011).

7.3. Model Specification and Fit Assessment

The conceptual model proposed in chapter three (i.e., Figure 3.1) was specified on the basis of theory and empirical findings (Kline, 2011) and empirical models were established to preserve the relationships outlined in the conceptual model. In a two-step modelling approach the hypothesised structural model was first respecified as a measurement model and evaluated using confirmatory factor analysis (CFA) to establish appropriateness of factor structure prior to assessing hypotheses about postulated relationships between factors (Kline, 2011). In particular, as a measurement model, CFA proposes relationships between observed indicator variables and underlying latent variable that indicator variables are designed to measure; then it tests these indicator variables against the data to check the proposed factorial structure of latent constructs (Wang and Wang 2012).

Following the estimation of measurement models, they were assessed for construct validity. As stated in chapter five, construct validity determines if all indicator variables of a latent construct share a high amount of common variance. Construct validity consist of two components: convergent validity and discriminant validity (Hair et al. 2010). Convergent validity was assessed through the examination of: 1) standardised factor loadings; 2) average variance extracted (AVE); and 3) construct reliability (CR). Fornell and Larker (1981) suggested that adequately convergent latent variables should have measures that contain more than 50% of explained or common variance. Similarly, Hair et al. 2010 recommend that standardised factor loadings and AVE need to be 0.50 or preferably higher to indicate sufficient convergence. Based on Fornell and Larker (1981), AVE for X (i.e., latent construct) with indicator variables $x_1, x_2... x_n$ was calculated using the following formula:

$$AVE = \frac{\Sigma[\lambda_i^2]\text{Var}(X)}{\Sigma[\lambda_i^2]\text{Var}(X)+\Sigma[\text{Var}(\varepsilon_i)]}$$

where λ_i is the standardised loading of x_i on X, Var represents variance, ε_i is the measurement error of x_i , and Σ denotes a sum (Fornell and Larker, 1981). Construct reliability (CR), which score should be 0.70 or higher (Hair et al. 2010), was calculated using information on standardised loadings of indicator variables and measurement error (ε_i) based on the following formula (Hair et al. 2010):

$$CR = \frac{(\sum \text{std loadings})^2}{(\sum \text{std loadings})^2 + \sum \varepsilon_i}$$

According to Fornell and Larcker (1981), AVE can also be used to estimate discriminant validity. These authors stated that when squared correlation between two latent variables (LV) is less than either of their individual AVE's, the LVs each have more internal (extracted) variance than variance shared between the LVs. When this is true for the target LV and all the other LVs, this suggests discriminant validity of the target LV.

After measurement models were assessed, indicator variables that did not demonstrate sufficient loadings were considered for removal or parcelling. In particular, two of five items measuring systematic mode and depth of information processing demonstrated low standardised loadings, yielding AVE below the accepted threshold (0.369) and raised discriminant validity concerns (CR 0.6) (Appendix 7.1A). However, deleting these items from the scale did not improve convergent or discriminant validity (Appendix 7.1B).

Parcelling of indicator items was then considered. The literature suggests that, when thoughtfully composed, parcels provide efficient, reliable and valid indicators of latent constructs (Little, Rhemtulla, Gibson and Schoemann, 2013). Parcelling often overcomes issues related to scaled items, where distributional requirements of structural equation modelling are more likely and there are smaller gaps between scale intervals such that variables more closely replicate continuous data (Kline 2011). Furthermore, item-pairs tend to be more normally distributed and have less idiosyncratic variance than individual items (Wang and Wang 2012). Proponents of parcelling advocate that if the *relationships* between constructs are of primary research interest (i.e., construct is more abstract) then parcelling may be more strongly warranted (Little, Cunningham, Shahar and Widaman, 2002). In light of this, it was determined that parcelling items measuring systematic mode and depth of information processing would be appropriate here. In particular, three sequential items measuring systematic mode of information processing were averaged and formed one parcel. Similarly, two sequential items measuring depth of information processing were used to form another parcel (i.e., *item-pairs* parcelling) (Hau and Marsh, 2004).

Item-pairs parcelling not only resulted in improved construct validity, yielding sufficiently high AVE (0.590) and CR (0.742), but also strengthened discriminant validity of systematic mode and depth of information processing latent construct (SMIP/DP) (Appendix 7.1C). After ensuring adequate convergent and discriminant validity of measurement models, these models were used to create structural models based on relationships amongst exogenous (i.e., latent independent variables) and endogenous constructs (i.e., latent dependent variables), as stated in the conceptual model. Additionally, two-sided univariate, bivariate and Mardia multivariate skewness and kurtosis tests (Mardia, Kent and Bibby, 1979) were conducted in *Mplus* to ensure that use of the rescaling-based robust estimator (i.e., MLR) for model estimation was required. Based on multivariate non-normality tests, both multivariate skewness and kurtosis were statistically significant indicating violation of multivariate normality assumption (Appendix 7.2). Hence, the MLR estimator for model estimation was chosen.

The model chi-square (χ^2) goodness-of-fit statistic and corresponding p value were used to test overall model fit. If the p value associated with χ^2 statistic was greater than 0.05, then the model was accepted as having good fit, since it was expected not to reject the null hypothesis (Wang and Wang, 2012). The null hypothesis non-rejection signifies that no difference between model estimated variances/covariance and observed sample variances/covariance was detected (Hooper, Coughlan and Mullen, 2008). However, because the χ^2 statistic is sensitive to sample size, the significance of the χ^2 test should not be the sole reason to reject a model (Wang and Wang, 2012). Hence, a number of model fit indices less sensitive to sample size were also used for model fit assessment.

As recommended by Hooper et al. (2008), the following absolute fit indices were used for model fit assessment: (1) the estimated Root Mean Square Error of Approximation (RMSEA), with 90% confidence interval; and (2) the Standardized Root Mean Square Residual (SRMR). In addition to these two absolute fit indices, two incremental fit indices were also reported, the Comparative Fit Index (CFI) (Bentler, 1990) and Tucker-Lewis Index (TLI). Besides model χ^2 statistics, RMSEA is considered to be the most informative as it reflects how well data fit overall model covariance (Diamantopoulos, 2000). RMSEA values are often interpreted as 0 = perfect fit; <0.05 = close fit; 0.05-0.08 = fair fit; 0.08 – 0.10 = mediocre fit; and >0.10 = poor fit (Steiger, 2007, Byrne, 1998).

In a well-fitting model, the lower 90% confidence limit includes or is close to 0, while the upper limit is less than 0.08. In addition, a close-fit test for null hypothesis is tested (H_0 : RMSEA ≤ 0.05) in which p value determines the significance/non-significance of the alternative hypothesis (H_A : RMSEA > 0.05). The specified model has a 'close fit' when probability RMSEA p value is bigger than 0.05 (Wang and Wang, 2012).

Another absolute fit index, such as SRMR, should have cut-off values close to 0.08 to indicate a good model fit (Hu and Bentler, 1999). Alternatively, a value of SRMR less than 0.10 is also acceptable (Kline, 2005). The incremental fit index, such as CFI, compares the specified model with the null model which assumes zero covariance among observed variables. Similarly, TLI is another way to compare lack of fit of a specified model to null model lack of fit, as it estimates relative model fit improvements per degree of freedom over the null model (Kline, 2005). CFI and TLI close to 0.95 indicate good fit (Hu and Bentler, 1999).

In addition to the above specified indices, percentage of variance explained in the dependent variable (R^2) was used to judge the quality of empirical models. Where fit indices indicated poor fit of the model to data, post hoc modifications were made on an empirical and theoretical basis. In particular, in all estimated models the error terms of two items measuring attitude towards the advertisement (AT) were correlated (i.e., item AT4: "to what extent did the ad make you feel that you should try to seek professional assistance with gambling?", and item AT3: "to what extent did the ad make you feel motivated to call gambling help and support centre?").

Statistical significance of relationships between indicator variables and their latent construct in the CFA was examined using p values < 0.05 and critical ratios equivalent to t values above 2.00 (Kline, 2011). Likewise, significance of relationships between independent and dependent variables (i.e., regressions in the structural model) was estimated using p values < 0.05 .

In SEM, it is recommended to consider alternative models; hence, the best fitting model can be determined by model comparison (Bollen and Long, 1993).

The likelihood ratio (LR) test is often used for model comparison in SEM for two nested models estimated from the same data set (Wang and Wang, 2012). Nested models are two identical models except that one model constrains some parameters (i.e., the null model, H_0) and the other does not constrain parameters (i.e., the alternative model, H_A). Typically, the χ^2 difference test involves calculating the difference between χ^2 statistics for the null and alternative models, the resulting statistic is distributed χ^2 with degrees of freedom equal to the difference in degrees of freedom between the two models. However, as previously discussed in chapter five, when a robust estimator such as MLR is used for model estimation, a scale difference in χ^2 should be computed for nested model comparison (Wang and Wang, 2012). Following Wang and Wang (2012), after assessing a fully saturated measurement model (i.e., H_0 model without any constraints) analysis was re-run with equality restrictions on factor loadings to each factor. Then a likelihood ratio (LR) test was conducted to examine whether indicators of each factor were equally loaded on underlying factors in constrained and unconstrained models. Next, the scaled difference in χ^2 s for model comparison was calculated (Wang and Wang, 2012, Satorra and Bentler, 2010):

$$TR_d = (T_0 - T_1) / C_d$$

where TR_d is the scaled difference in χ^2 s, T_0 is the ML χ^2 statistic for the H_0 model (model with restricted factor loadings), T_1 is the ML χ^2 statistic² for the H_A model (i.e., model with unrestricted factor loadings) and C_d is the difference test scaling correction.

$$C_d = [(d_0 * c_0) - (d_1 * c_1)] / (d_0 - d_1)$$

where d_0 and c_0 are degrees of freedom (df) and the scaling correction factor for the H_0 model, and d_1 and c_1 are df and scaling correction factor for the H_A model. After calculating the scaled difference in χ^2 s for model comparison the p value was calculated (0.05 level) to test whether the change in overall fit in the model (improvement or decrement) was statistically significant.

²ML χ^2 (T) is the product of MLR χ^2 (T*) and the scaling corrector factor (C).

7.4. Testing of Mediation Effects

Bootstrapping is one of several resampling strategies for estimation and hypothesis testing to obtain total indirect, specific indirect and total effects of a specific mediational path as postulated in the model (Hair et al. 2010). Specific upper and lower bounds for confidence intervals are established to find the lowest and largest value in the ordered rank of value estimates to reject the null hypothesis that the indirect effect is zero (i.e., with 95 level of confidence) (Zhao, Lynch and Chen, 2010). In other words, an indirect effect is significant and mediation is established if the 95% bootstrap confidence interval of the indirect effect does not include zero (Zhao et al., 2010).

7.5. Testing of Latent Variable Interactions (LMS Models)

Next, the interaction effects between various continuous latent variables (i.e., a-priori individual consumer characteristics outlined in the conceptual model) were analysed based on the method for estimating and interpreting latent variable interactions (LMS) (Maslowsky et al., 2014). Although, *Mplus* does not support bootstrapping with complex latent variable models involving interactions and cannot estimate mediated moderation per se, (Lau and Cheung, 2010), it still allows LMS analysis to evaluate simultaneous interactions between latent variables (Maslowsky et al., 2014). Following Maslowsky et al. (2014), interaction effects within LMS models were estimated in *Mplus* with the XWITH command using full information maximum likelihood with robust standard errors (MLR). Latent variables were scaled by fixing loadings of the first item to 1.0 per *Mplus* default.

After ensuring fit of the LMS measurement model (step one), structural LMS models were estimated (i.e., steps two and three). In particular, the second step estimated the structural LMS model without interaction first, allowing supplying model fit indices (i.e., CFI, TLI, RMSEA, and MLR χ^2) and evaluating the direct relationship between the moderator and dependent variable. The third step specified and estimated the structural model with the latent interaction term (i.e., LMS model with interaction), which provided the final regression coefficients and allowed testing of latent interaction significance. According to Hox (2002), if an interaction effect is statistically significant, the corresponding main effects must remain in the model, whether they are significant or not.

The interaction was interpreted by graphing, as in standard regression models, plotting regression coefficients for main effects and the latent interaction obtained from LMS model. Then, using a log-likelihood ratio test (LR), the relative fit of LMS Model where interaction is not estimated and therefore assumed to be zero and LMS Model where interaction is estimated were compared. The log-likelihood test was used to determine whether the more parsimonious model (i.e., LMS model which does not estimate interaction effect) represents a significant loss in fit relative to more complex LMS model with the interaction. The test statistic for a log-likelihood ratio test, often denoted as **D**, was calculated using the following equation as recommended by Maslowsky et al. (2014):

$$\mathbf{D} = -2[(\text{log-likelihood for Model } H_0) - (\text{log-likelihood for Model } H_A)]$$

The values of **D** are approximately distributed as χ^2 . The degrees of freedom (df) to determine the significance of **D** is calculated by subtracting the number of free parameters in LMS model without interaction from the number of free parameters in LMS model with interaction. If Model LMS model without interaction fits well and per log-likelihood ratio test such model represents a significant loss in fit relative to LMS model with interaction term, then it is concluded that LMS model with the interaction term is also a well-fitted model (Maslowsky et al., 2014, Klein and Moosbrugger, 2000). The following formula was used for calculating R^2 for dependent variable (Y) in LMS Model with interaction term (Maslowsky et al., 2014):

$$R^2_{YA} = \frac{\beta^2_{YXI} \sigma^2_{XI} + \beta^2_{YX2} \sigma^2_{Xn} + 2\beta_{YXI}\beta_{YXn} + \beta^2_{XIXn} (\sigma^2_{XI} \sigma^2_{Xn} + (\sigma^2_{XI Xn})^2)}{\beta^2_{YXI} \sigma^2_{XI} + \beta^2_{YXn} \sigma^2_{Xn} + 2\beta_{YXI}\beta_{YXn} + \beta^2_{XIXn} (\sigma^2_{XI} \sigma^2_{Xn} + (\sigma^2_{XI Xn})^2) + \sigma^2_{Yres}}$$

Where β^2_{XI} and β^2_{Xn} are coefficients of ‘main’ (first order) effects, σ^2_{XI} and σ^2_{Xn} are variances of each latent variable, σ^2_{XIXn} is covariance between the latent variables, σ^2_{Yres} is residual variance for the response, plus β_{XIXn} , which is a coefficient for the interaction.

The difference between the two R^2 values (in LMS model without interaction vs LMS model with interaction) yields the proportion of explained variance attributable to the interaction term and was calculated based on the following formula (Maslowsky et al., 2014):

$$\Delta R^2_Y = R^2_{Y1} - R^2_{Y2}$$

7.6. Description of the Models Derived from the Conceptual Framework: SEM and LMS Models

7.6.1. SEM Models

The current research investigated the direct and indirect impacts of various emotions (i.e., fear, challenge and fear mixed with challenge) on help-seeking behavioural intentions in respondents exposed to advertising stimuli and several models were produced to fulfil this objective. SEM Model 1 (Figure 7.1), SEM Model 2 (Figure 7.2) and SEM Model 3 (Figure 7.3) allowed estimation of mediating impacts of systematic mode and depth of information processing on help-seeking intentions across different emotional appeals (i.e., fear mixed with challenge as SEM Model 1, fear as SEM Model 2, and challenge as SEM Model 3). Moreover, the direct impact of various emotions (i.e., via heuristic mode) on help-seeking intentions was estimated in each SEM model. In particular, SEM Model 1 examined the direct impact of fear mixed with challenge on systematic mode and depth of information processing (SMIP/DP), addressing the first hypothesis (i.e., H_1), and also examined the indirect impact of fear mixed with challenge on behavioural intentions (BI) among 228 at-risk gamblers. Likewise, SEM Models 2 and 3 investigated the direct/indirect impact of fear appeals (N=145) and challenge appeals (N=82) on BI. Overall, these three SEM models allowed testing for mediation effects of SMIP/DP and attitude towards the advertisement (AT) across different emotional appeals, addressing hypothesis H_1 , H_2 , H_3 , H_4 , and H_5 stated in chapter three. Figures 7.1 – 7.3 graphically outline the SEM Models

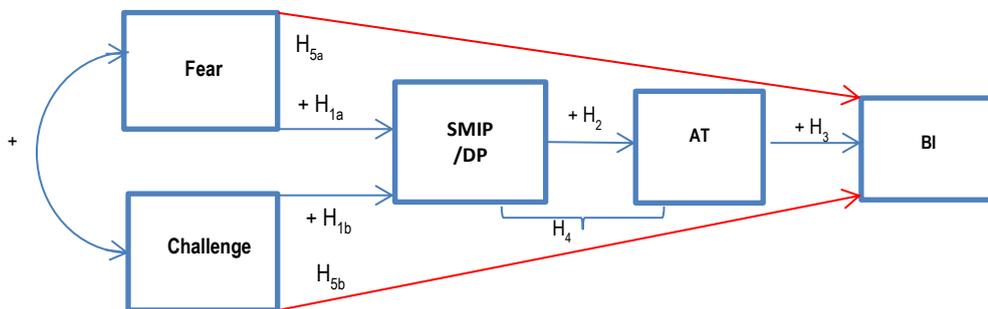


Figure 7.1: SEM Model 1 Estimating Fear mixed with Challenge Appeals

Notes: Paths hypothesised as non-significant are marked in red
N=228

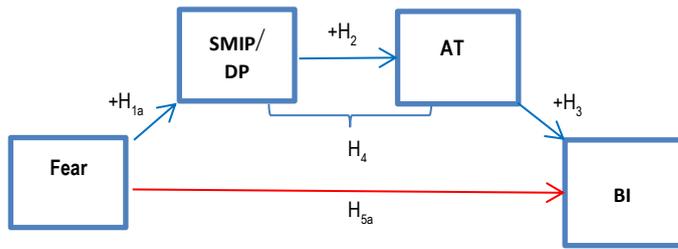


Figure 7.2: SEM Model 2 Estimating Fear Appeals

Notes: Path hypothesised as non-significant is marked in red
N=145

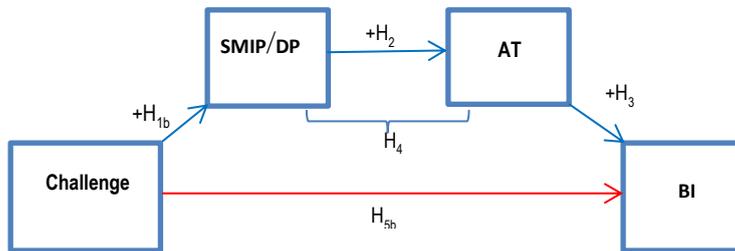


Figure 7.3: SEM Model 3 Estimating Challenge Appeals

Notes: Path hypothesised as non-significant is marked in red
N=82

Next, in order to determine which emotion, or combination of emotions, evoked by the advertising appeals had the strongest indirect impact on BI (i.e., hypothesis H_{11}), SEM Models 1, 2, and 3 were simultaneously tested (i.e., multi-group invariance analysis) for the invariance/non-invariance in structural paths outlined in each model. In particular, following Wang and Wang (2012), MODEL TEST command in *Mplus* provided a Wald test for estimating if indirect effects of evoked emotions on BI via SMIP and AT were significantly different across sequential paths outlined in each model (i.e., $F \rightarrow SMIP/DP \rightarrow AT \rightarrow BI$ in fear appeal; $Ch \rightarrow SMIP/DP \rightarrow AT \rightarrow BI$ in challenge appeal; F mixed with $Ch \rightarrow SMIP/DP \rightarrow AT \rightarrow BI$ in fear mixed with challenge appeal). A statistically significant Wald test indicates the presence of substantial differences (i.e., non-invariance) between “main” effects postulated in different models allowing identification of the strongest indirect impact of emotion/s on BI among the tested models. As measurement invariance is a prerequisite to testing structural invariance (Dimitrov, 2010), configural, scalar and metric invariance in measurement portions in SEM Models 1, 2, and 3 was tested first. According to Dimitrov (2010), configural measurement invariance is defined as the same number of factors and same patterns of free and fixed factor loadings across

groups (i.e., fear mixed with challenge, fear and challenge) without equality restrictions on other model parameters. Metric invariance is defined as invariance of factor loadings across groups. Scalar invariance is defined as invariance of factor loadings and indicator/item intercepts across groups.

The configural measurement model (i.e., unconstrained model) was specified as having loadings free in all groups (i.e., fear, fear mixed with challenge and challenge), except loadings for the referent indicator which was fixed at 1.0 in all groups. The means and factors of all groups were fixed at 0 while variance was free to vary. Residual variances were fixed at 1.0 in all groups. The metric model was specified as having loadings constrained across groups, except loadings for the first indicator of a construct which was fixed at 1.0 in both groups. The scalar model was specified to test invariance of all measurement parameters (i.e., factor loadings, item intercepts, and item variances) simultaneously. Fit indices produced by each measurement model (i.e., scalar, metric and configural) were examined using the same criteria as previously discussed.

Next, the MLR chi square (χ^2) difference test of metric vs. configural, scalar vs. configural and scalar vs. metric model was conducted. As previously mentioned in chapters five and seven, the chi-square value for MLR estimator could not be used for chi-square difference testing in the regular way. Instead, difference test scaling correction (C_d) and Sattora-Bentler scaled chi-square difference (TR_d) were calculated to aid model comparisons as previously described. Statistically non-significant results between metric, configural and scalar models indicate absence of substantial differences between measurement models and permit further evaluation of structural invariance between the fear, challenge and fear mixed with challenge SEM models. Alternatively, if only a small number of thresholds were found to be non-invariant, then 'partial invariance' (i.e., invariance in up to 20% of parameters,) was considered permissible (Dimitrov, 2010, Byrne, 1998). After assessment of measurement invariance, structural invariance of indirect relationships outlined in SEM Models 1, 2 and 3 (i.e., Figures 7.1 7.2 and 7.3) was evaluated using the Wald test.

Next, Latent Moderated Structural Equations Models (LMS) were tested to investigate the moderating role of individual consumers' characteristics as postulated in the conceptual framework.

7.6.2. LMS Models

Latent Moderated Structural Equations Models (LMS) were specified and estimated to test the interaction effects outlined in the conceptual framework. In particular, LMS Model 1 (Figure 7.4) was used to explore the interaction effect of tolerance of ambiguity (TA) with attitude towards the advertisement (AT) and estimated the interaction's impact on the relationship between AT and help-seeking behavioural intentions (BI) in respondents who felt fear mixed with challenge (hypothesis H₆). Likewise, LMS Model 2 (Figure 7.5) was used to investigate the interaction effect of tolerance of negative emotions (TNE) with the systematic mode and depth of information processing (SMIP/DP) and explored the interaction's impact on the relationships between SMIP/DP and AT in respondents who felt fear (hypothesis H₇). Last, LMS Model 3 (Figure 7.6) tested whether, regardless of elicited emotions, various individual consumer characteristics, such as involvement with the advertisement (INV), response efficacy (RE) and self-accountability (SA), significantly interact with SMIP/DP and if such interactions (i.e., single or simultaneous) impact on the relationship between SMIP/DP and AT. To fulfill this objective, LMS Model 3 combined data of all respondents (N=455) irrespective of felt emotions to investigate proposed interaction effects, addressing hypothesis H₈, H₉, H₁₀ discussed in chapter three. Figures 7.4 – 7.6 graphically outline the LMS models.

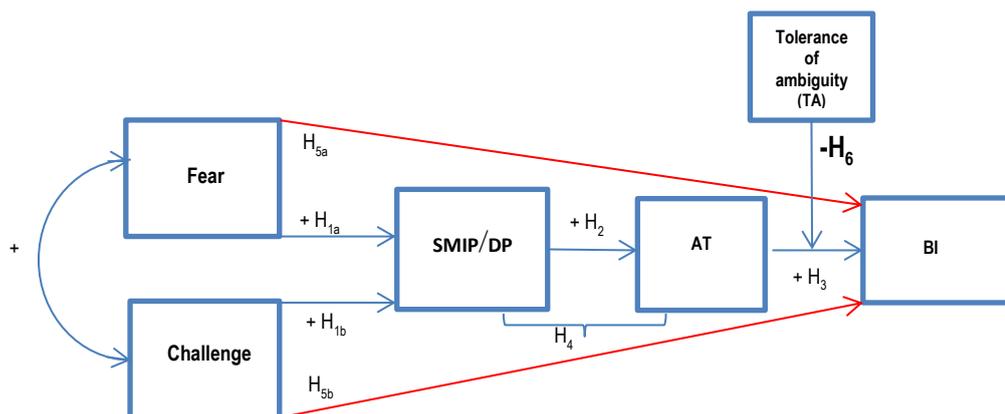


Figure 7.4: LMS Model 1 Estimating TA x AT Interaction

Notes:

Moderation hypothesis H₆ is marked in bold

N=228

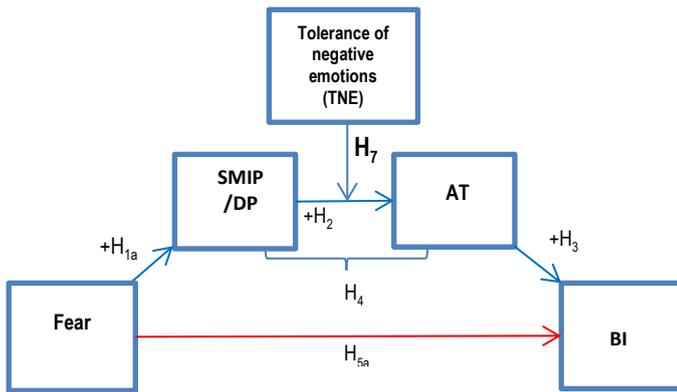


Figure 7.5: LMS Model 2 Estimating TNE x SMIP/DP Interaction

Notes:

Moderation hypothesis H_7 is marked in bold

N=145

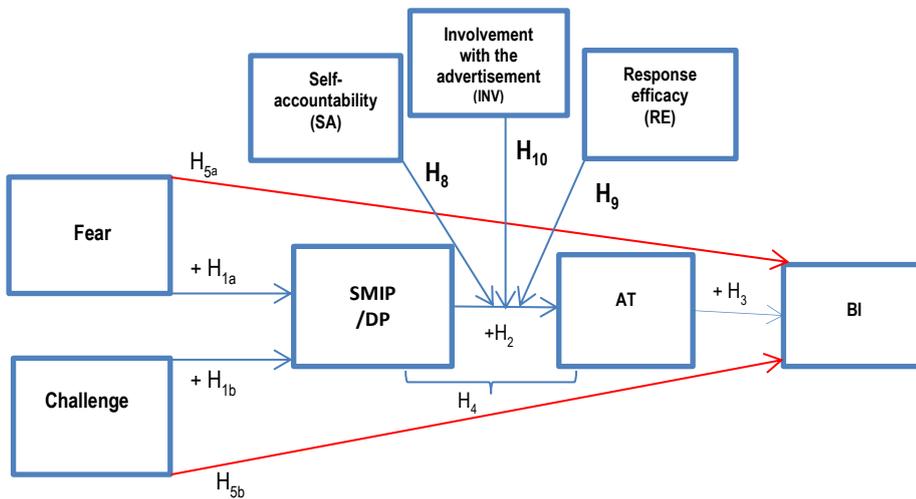


Figure 7.6: LMS Model 3 Estimating Concurrent SA x SMIP/DP; RE x SMIP/DP; INV x SMIP/DP Interactions

Notes:

Moderation hypothesis H_8 , H_9 , and H_{10} are marked in bold

N=455

7.7. Assessing Measurement Validity

As previously discussed, the estimation of SEM or LMS models requires preliminary evaluation of validity and reliability of their respective measurement models. All latent variables outlined in the models were examined for construct and discriminant validity during confirmatory factor analysis (CFA). Appendix 7.3 displays factor loadings, t and p values, AVE and CR reliability and fit estimates across all models (i.e. measurement portions). The majority of constructs exhibited sufficient AVE of well above 50%. Likewise, the majority of CR coefficients were consistently above 0.70, as recommended by Hair et al. (2010).

However, several constructs raised convergent validity concerns during CFA analysis. In particular, three items from the tolerance of ambiguity scale (TA) yielded β loadings and t values below acceptable thresholds with non-significant p values (i.e., TA2 $\beta = -0.026$, $t = 0.263$, $p = 0.793$; TA6 $\beta = 0.095$, $t = 1.511$, $p = 0.131$; TA8 $\beta = 0.350$) and were removed from the scale. Furthermore, tolerance of negative emotions (TNE) construct exhibited AVE below 0.50 (AVE 0.420). Removal of a low-loaded item TNE2 (0.399) from the construct did not improve overall AVE, but improved the CR value of the construct (CR 0.740). The four remaining TNE indicator items exhibited satisfactory t values above 2.00 and significant p values ($p = 0.000$). Thus, overall the TNE construct with four indicator variables was considered acceptable for further latent moderation assessment.

Additionally, SMIP/DP construct in SEM Model 3 exhibited low AVE (0.415) and CR (0.587) values, but loadings of parcelled indicator variables retained acceptable t values (i.e., SMIP Parcel = 5.857; DP Parcel = 4.186), as well as statistically significant p values ($p = 0.000$). Lastly, one item (RE4 = 0.358) from the response efficacy (RE) construct exhibited low loading and t value of 0.800 and was removed from the RE scale. Even though removal of the RE4 item improved AVE, it still remained slightly below the 0.50 threshold (AVE 0.445). However, the three remaining items for RE construct exhibited high t values with significant p values (i.e., RE1 = 11.648, $p = 0.000$; RE2 = 13.144, $p = 0.000$; RE3 = 12.911, $p = 0.000$). Thus, the RE construct was retained in the model for further latent moderation testing. Overall, the results of CFA analysis for all models confirmed that the majority of manifest variables exhibited acceptable fit of data to the conceptual model with adequate fit indices (see Appendix 7.3).

As indicated, discriminant validity was examined using Fornell and Larker (1981) criterion which states that items should load highly on their respective construct. In other words, average variance shared between each construct and its measures should be greater than variance shared between constructs (Fornell and Larker, 1981). Appendices 7.4A-7.4F show that the square roots of AVE (marked in bold) of all constructs in all models, except SMIP/DP in SEM Model 3, were greater than correlation values across rows or columns, supporting discriminant validity. Moreover, estimated correlations between factors were not exceedingly high (i.e., less than 0.850) demonstrating that the majority of indicator items measured distinctly different constructs (Kline, 2011).

Hence, overall, acceptable discriminant validity testing results across all measurement models confirmed that structural models could be established and estimated.

7.8. SEM Models: Investigating Direct and Indirect Impacts of Emotions via SMIP/DP and AT on Help-Seeking Behavioural Intentions

7.8.1. SEM Model 1

SEM Model 1 tested the hypothesis that fear mixed with challenge would significantly impact on SMIP/DP and that SMIP/DP and AT would mediate the indirect impact of evoked emotions on BI. Additionally, SEM Model 1 predicted that the direct impact of fear mixed with challenge on BI would be non-significant. The hypothesised model fits the data well: MLR $\chi^2 = 162.477$, $df = 96$, $p = 0.0000$, RMSEA = 0.055 (90% CI: 0.040; 0.069), close-test p value = 0.272, CFI = 0.969, TLI = 0.961 and SRMR = 0.069. Overall, the alternative model (i.e., model with constrained structural path) exhibited satisfactory fit. However, the SRMR value in the model with constrained structural path was inflated beyond an acceptable threshold. In particular, MLR $\chi^2 = 172.313$, $df = 99$, $p = 0.0000$, RMSEA = 0.057 (90% CI: 0.042; 0.071), close-test p value = 0.102, CFI = 0.966, TLI = 0.959 and SRMR = 0.103. The Satorra-Bentler scaled chi-square difference test yielded difference test scaling correction value (C_d) of 0.9824 and scaled chi-square difference value (TR_d) of 10.3940 with difference in degrees of freedom ($\Delta df = 3$). The p -value was 0.0154 and significant at $p < 0.05$ indicating that the hypothesised model (i.e., model with unconstrained structural paths) (Figure 7.7) fits the data significantly better than the alternative model (i.e., model with constrained structural path).

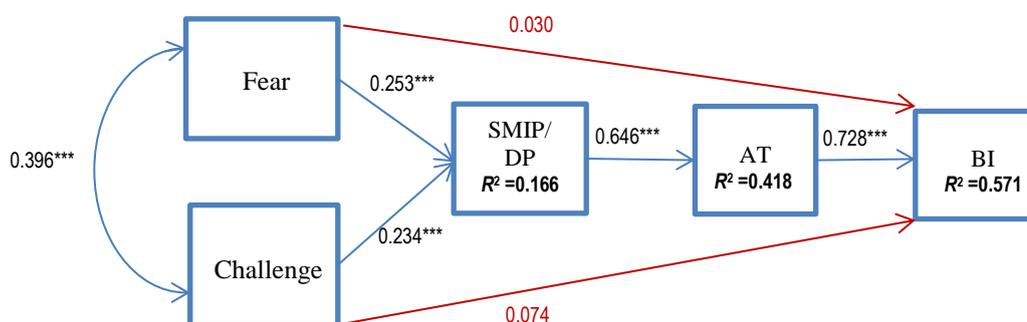


Figure 7.7: Hypothesised SEM Model 1

Notes: Standardised regression weights (β) are presented
 $p < .05$ (2-tailed), $p < .01$ (2-tailed), $p < .001$ (2-tailed)
 Non-significant paths are marked in red
 Variance explained (R^2) is marked in bold
 N=228

Unstandardised and standardized regression weights, *t*-and *p* values of measurement and structural portions (i.e., paths' regression coefficients) of SEM Model 1 are displayed in Appendix 7.5. Analysis results (Figure 7.7) indicate that evoked emotions of fear (F) mixed with challenge (Ch) influenced SMIP/DP as predicted, both exerting an impact of similar magnitude on SMIP/DP. In particular, fear (H_{1a}) ($\beta = 0.253, p < .001$) co-elicited with challenge (H_{1b}) ($\beta = 0.234, p < .001$) directly and positively influenced SMIP/DP, hence supporting H₁.

As expected for co-activated emotions, fear was positively and significantly correlated with challenge (0.396, $p < .001$). Empirical results also indicate a strong positive impact of SMIP/DP on AT ($\beta = 0.646, p < .001$) supporting H₂. In turn, AT positively influences ($\beta = 0.728, p < .001$) BI, supporting H₃.

The results of mediational analysis indicate that a specific indirect effect of F on BI through SMIP/DP and AT was positive and significant ($\beta = 0.119, p < .001$), and the total effect of F on BI was also significant accounting for ($\beta = 0.149, p < .05$) (see estimates in Table 7.1). Similarly, a specific indirect effect of challenge (Ch) on BI via cognitive mediators of SMIP/DP and AT was positive and significant (0.110, $p < .05$). Total effects from Ch to BI also yielded significant and positive evaluations ($\beta = 0.184, p < .05$). Zhao et al. (2010) stated that an indirect effect is significant and mediation is established if the 95% bias-corrected bootstrap confidence intervals of the indirect effect do not include zero. Results in Table 7.1 show that the 95% bias-corrected bootstrap intervals (lower 2.5% limit = 0.016; upper 2.5% = 0.189) for specific indirect effect of Ch to BI via SMIP/DP and AT do not contain zero. Likewise, the 95% bias-corrected bootstrap intervals (lower 2.5% limit = 0.038; upper 2.5% = 0.187) for specific indirect effect of F to BI via SMIP/DP and AT did not contain zero, demonstrating that all hypothesised mediation effects were significant, as predicted by H₄ for fear mixed with challenge appeals (Table 7.1). Moreover, as predicted by H_{5a}, SEM Model 1 confirmed that the direct effect of fear on BI was non-significant (0.030, $p < 0.10$). Similarly, the direct effect of challenge on BI was non-significant (0.74, $p = 0.221$), supporting H_{5b}. Overall, support for H₅ suggests that, if heuristically processed, emotional advertising does not impact on help-seeking behavioural intentions, since fear ($\beta = 0.030, p = 0.637$) mixed with challenge ($\beta = 0.074, p = 0.221$) produced non-significant direct impact on BI.

Table 7.1: Confidence Intervals of Standardised Total, Specific Indirect and Direct Effects of Fear Mixed with Challenge on BI

	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 2.5%	Upper 5%	Upper .5%
Effects from Ch to BI							
Total	-0.009	0.037	0.061	0.184	0.307	0.331	0.377
Specific indirect: (BI AT SMIP/DP CH)	-0.014	0.016	0.031	0.110	0.189	0.204	0.234
Direct: BI on CH	-0.091	-0.051	-0.031	0.074	0.179	0.199	0.239
Effects from F to BI							
Total	-0.039	0.006	0.029	0.149	0.269	0.292	0.337
Specific indirect: (BI AT SMIP/DP F)	0.012	0.038	0.051	0.119	0.187	0.201	0.226
Direct: BI on F	-0.148	-0.105	-0.084	0.030	0.144	0.165	0.208

In total, SEM Model 1 (i.e., estimation of fear mixed with challenge appeal) explained 57.1% of variance in help-seeking behavioural intentions (BI), with 41.8% of explained variance in AT and 16.6% of explained variance in SMIP/DP.

7.8.2. SEM Model 2

SEM Model 2 investigated the direct/indirect impact of fear on behavioural intentions via SMIP and AT. The hypothesised model exhibited satisfactory fit: MLR $\chi^2 = 78.827$, $df = 49$, $p = 0.0044$, RMSEA = 0.065 (90% CI: 0.036; 0.090), close-test p value = 0.174, CFI = 0.967, TLI = 0.955 and SRMR = 0.046. The alternative model (i.e., with constrained structural path) produced the following fit indices: MLR $\chi^2 = 134.758$, $df = 50$, $p = 0.0000$, RMSEA = 0.108 (90% CI: 0.086; 0.130), close-test p value = 0.000, CFI = 0.906, TLI = 0.876 and SRMR = 0.179. The Satorra-Bentler scaled chi-square difference test yielded difference test scaling correction value (C_d) of 0.9256, and scaled chi-square difference value (TR_d) of 65.1334 with difference in degrees of freedom ($\Delta df = 1$). The p -value was <0.00001 , indicating that the hypothesised model (i.e., with unconstrained structural paths in Figure 7.9) fits the data significantly better than an alternative model with structural constraints. Analysis indicates that evoked fear (F) ($\beta = 0.346$, $p = 0.000$) significantly and positively impacts on SMIP/DP (Figure 7.8). As predicted, SMIP/DP ($\beta = 0.751$, $p = 0.000$) strongly and positively influenced AT. In turn, BI is strongly and positively impacted by AT ($\beta = 0.637$, $p = 0.000$). Similarly, as for SEM Model 1, direct impact of F ($\beta = 0.123$, $p = 0.087$) on BI was also non-significant in this model (Figure 7.8). Appendix 7.6 displays the measurement and structural portions of SEM Model 2, including unstandardized and standardised regression weights, t and p values, and path's regression coefficients.

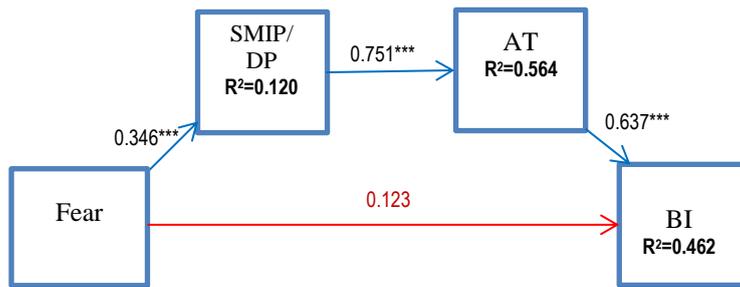


Figure 7.8: Hypothesised SEM Model 2

Notes: Standardised regression weights (β) are presented
 $p < .05$ (2-tailed), $p < .01$ (2-tailed), $p < .001$ (2-tailed)
 Non-significant path is marked in red
 Variance explained (R^2) is marked in bold
 N=145

Results of mediational analysis indicate that specific indirect effect of fear (F) on BI through the mediating variables of SMIP/DP and AT was positive and significant ($\beta = 0.166, p = 0.002$). Total effects from F to BI was also significant, accounting for $\beta = 0.289, (p = 0.000)$ (estimates in Table 7.2). Hence, H_4 for fear appeals is supported. Furthermore, in accordance with Zhao et al. (2010), the 95% bias-corrected bootstrap confidence interval for the mediational effect of SMIP/DP and AT does not contain zero (lower 2.5% limit = 0.062; upper 2.5% limit = 0.252) (Table 7.2). Hence, the indirect impact of fear (F) on BI via SMIP and AT is significantly different from zero, thus further supporting H_4 for fear appeals.

Effects from F to BI	Lower 0.5%	Lower 2.5%	Lower 5%	Estimate	Upper 2.5%	Upper 5%	Upper 0.5%
Total	0.104	0.148	0.171	0.289	0.406	0.429	0.473
Specific indirect: (BI AT SMIP/DP F)	0.030	0.062	0.079	0.166	0.252	0.269	0.301
Direct: BI on F	-0.061	-0.017	0.005	0.123	0.241	0.263	0.307

Overall, SEM Model 2 explained 46.2% of variance in BI, with 56.4% of explained variance in AT, and 12% of explained variance in SMIP/DP.

7.8.3. SEM Model 3

SEM Model 3 explored the direct and indirect impact of challenge on behavioural intention (BI) via SMIP and AT. Appendix 7.3 displays the fit indices and the measurement portions of SEM Model 3 reported earlier during the CFA. The hypothesised SEM Model 3 (Figure 7.9) exhibited satisfactory fit: MLR $\chi^2 = 74.592, df = 59, p = 0.0829, RMSEA = 0.057$

(90% CI: 0.036; 0.090), close-test p value = 0.174, CFI = 0.967, TLI = 0.955 and SRMR = 0.046. The alternative model (i.e., with constrained structural path) produced the following fit: MLR $\chi^2=104.422$, $df = 60$, $p = 0.0000$, RMSEA = 0.095 (90% CI: 0.064; 0.125), close-test p value = 0.013, CFI = 0.916, TLI = 0.891 and SRMR = 0.151. The Satorra-Bentler scaled chi-square difference test yielded a difference test scaling correction value (C_d) of 0.151 and scaled chi-square difference value (TR_d) of 16.7564 with difference in degrees of freedom ($\Delta df = 1$). The estimated p -value was significant ($p = 0.000$), suggesting that the hypothesised model (i.e., model with unconstrained structural paths in Figure 7.9) fits the data significantly better than the alternative model (i.e., model with structural constraints). Results produced by the hypothesised model indicate that evoked challenge (Ch) strongly and positively ($\beta = 0.518$, $p = 0.000$) impacts on SMIP/DP. In turn, SMIP/DP strongly and positively ($\beta = 0.717$, $p = 0.000$) influences AT. Consequently, BI is strongly and positively impacted by AT ($\beta = 0.618$, $p = 0.000$). Similar to SEM Models 1 and 2, direct impact of Ch ($\beta = 0.153$, $p = 0.187$) on BI was non-significant in consumers who felt challenge after the ad exposure, hence supporting H_{5b} for SEM Model 3 (Figure 7.9).

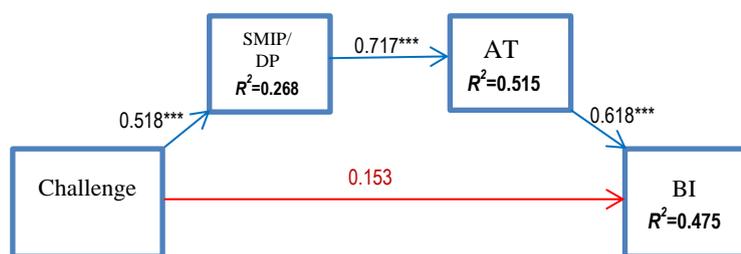


Figure 7.9: Hypothesised SEM Model 3

Notes: Standardised regression weights (β) are presented.
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 Non-significant path is marked in red
 Variance explained (R^2) is marked in bold
 N=82

Appendix 7.7 displays the unstandardized and standardised measurement and structural portions of SEM Model 3. Results of mediational analysis indicate that specific indirect effect of Challenge (Ch) on BI via cognitive mediators of SMIP/DP and AT was positive and significant ($\beta = 0.156$, $p = 0.001$), and also showing positive and a significant total effect from Ch to BI ($\beta = 0.240$, $p = 0.001$) (Table 7.3). Furthermore, the 95% bias-corrected bootstrap confidence interval for mediational effect between Ch and BI via SMIP/DP and AT does not contain zero (lower 2.5% limit = 0.062; upper 2.5% limit = 0.234) (Table 7.3),

which indicates that mediational effect is significantly different from zero (Zhao et al., 2010, Lau and Cheung, 2010), thus supporting H₄ for challenge appeals.

Table 7.3: Confidence Intervals of Standardised Total, Specific Indirect and Direct Effects of Fear on BI

Effects from Ch to BI	Lower 0.5%	Lower 2.5%	Lower 5%	Estimate	Upper 2.5%	Upper 5%	Upper 0.5%
Total	0.054	0.099	0.121	0.240	0.358	0.381	0.425
Specific indirect: (BI AT SMIP/DP F)	0.033	0.062	0.077	0.156	0.234	0.249	0.279
Direct: BI on CH	-0.063	-0.028	-0.010	0.084	0.178	0.196	0.232

As discussed earlier in this chapter, the SMIP/DP construct in SEM measurement Model 3 during CFA raised some discriminate validity concerns (Appendix 7.4.C). Hence, measurement and structural portions of SEM Model 3 (Appendix 7.9A) were carefully re-examined to identify the correlational value between constructs with particular focus on SMIP/DP. Correlation between SMIP/DP and AT constructs was 0.717 and considered as not exceedingly high (Kline, 2005), hence supporting discriminant validity between SMIP/DP and AT in SEM Model 3 (Appendix 7.7.A). In total, SEM Model 3 explained 47.5% of variance in BI, with 51.5% of explained variance in AT and 26.8% of explained variance in SMIP/DP.

Overall, empirical results obtained from SEM Models 1, 2, and 3 confirmed that H₄ was supported across all emotional appeals tested in the current study as SMIP/DP and AT mediated the relationship between fear mixed with challenge (SEM Model 1), fear (SEM Model 2) and challenge (SEM Model 3) and help-seeking behavioural intentions (BI), as predicted. Similarly, H_{5a} and H_{5b} were consistently supported as the direct impacts of fear mixed with challenge/fear/challenge on BI were non-significant across all appeals.

Next, the indirect effects of evoked emotions on BI via SMIP and AT were compared between SEM Model 1, SEM Model 2, and SEM Model 3 to reveal any significant difference (i.e., structural non-invariance) across sequential paths outlined in each model (F mixed with Ch → SMIP/DP → AT → BI in SEM Model 1; F → SMIP/DP → AT → BI in SEM Model 2; Ch → SMIP/DP → AT → BI in SEM Model 3). Statistically significant Wald test used in this analysis indicated substantial differences (non-invariance) between main effects postulated in different SEM models, allowing identification of the strongest indirect impact of emotion/s on BI.

Fit indices for configural, metric and scalar SEM models including MLR χ^2 , df, p values and scaling correction factor for MLR are displayed in the Appendix 7.8. Measurement invariance was partially supported across all types of emotional appeals. In particular, no significant differences were revealed while comparing metric against configural ($p = 0.9461$), or scalar against configural, models ($p = 0.1496$). However, comparison of scalar against metric models yielded significant differences ($p = 0.0119$) (Table 7.4). As invariance up to 20% of parameters is considered permissible in the literature (Dimitrov, 2010, Byrne, 1998), structural invariance testing was performed next. The measurement portions and structural portions including path coefficients for each path in concurrently compared SEM models 1, 2, and 3 are displayed in Appendix 7.9

Models Compared	MLR Chi-square	Difference in Degrees of Freedom (Δ df)	Difference Test Scaling Correction (C_d)	Sattora-Bentler Scaled Chi-Square Difference (TRd)	p -value
Metric against Configural	5.328	12	0.9935	5.3244	0.9462
Scalar against Configural	31.147	24	1.0011	31.1480	0.1495
Scalar against Metric	25.671	12	1.0087	25.6691	0.0119

The Wald test revealed that the indirect impact of evoked emotions on help-seeking behavioural intentions (BI) was non-invariant (Wald Test value = 7.504, $df = 1$, $p = 0.0062$) among respondents who felt fear mixed with challenge and respondents who felt fear after ad exposure (Appendix 7.10.A). Likewise, the indirect impact of fear mixed with challenge on BI was non-invariant (Wald Test value = 7.981, $df = 1$, $p = 0.2783$, $p = 0.0047$) in comparison with challenge appeals (Appendix 7.10.B). Thus, H_{11} was fully supported. While the indirect impact of fear via SMIP/DP and AT on BI in comparison with challenge produced invariant results (Wald Test value = 1.070, $df = 1$, $p=0.3009$) (Appendix 7.10.C). Overall, based on empirical testing, fear mixed with challenge had a significantly different indirect impact on help-seeking behavioural intentions, in comparison to fear or challenge appeals, yielding the highest standardised regression weights ($\beta = 0.732$, $p = 0.000$) in AT \rightarrow BI path among tested appeals.

7.9. The Kruskal Wallis Test

The results of Kruskal Wallis testing (Appendix 7.11.A) confirmed significant differences ($\chi^2 = 10.971$, $df = 2$, $p = 0.004$) between evoked emotions (fear appeal mean rank =

199.25, fear mixed with challenge appeal mean rank = 242.10 and challenge appeal mean rank = 239.64) and their impact on help-seeking behavioural intentions (i.e., “How likely is it that in the next three months you will enrol in a gambling help and support program if one were available to you at minimal cost and easy access?”). Help-seeking behavioural intentions (BI) in respondents who experienced fear mixed with challenge yielded the highest mean rank among compared emotional appeals ($M = 242.10$), again supporting H_{11} . Likewise, when at-risk respondents were grouped based on gambling status (moderate and problem gamblers) the Kruskal Wallis test revealed statistically significant differences in BI (sum of BI) among gamblers exposed to fear mixed with challenge appeals ($\chi^2 = 29.329$, $df = 1$, $p = 0.000$), fear appeals ($\chi^2 = 11.294$, $df = 1$, $p = 0.001$) and challenge appeals ($\chi^2 = 20.580$, $df = 1$, $p = 0.000$) (Appendix 7.11.B). In particular, the mean of help-seeking behavioural intentions (BI) was highest among respondents exposed to fear mixed with challenge appeals (i.e., BI Mean = 59.23 of moderate risk gamblers; BI Mean = 101.62 of problem gamblers) in comparison to BI means of respondents exposed to fear appeals (BI Mean = 43.14 of moderate risk gamblers; BI Mean = 63.25 of problem gamblers) or challenge appeals (BI Mean = 22.19 of moderate risk gamblers; BI Mean = 43.51 of problem gamblers).

7.10. Testing Interactions: Latent Moderated Structural Equations (LMS Models)

7.10.1. LMS Model 1

The hypothesised LMS Model 1 (Figure 7.10) predicted significant negative interaction between attitudes towards the advertisement (AT) and tolerance of ambiguity (TA) in respondents who felt fear mixed with challenge. Such interaction was hypothesised (H_6) to reduce the direct positive effect between AT and behavioral intentions (BI). Following Maslowsky et al. (2014), LMS Model 1 was analysed in several sequential steps described earlier in this chapter. In step one, the measurement model was assessed prior to estimating structural models and exhibited good fit: MLR $\chi^2 = 246.975$, $df = 173$, $p = 0.0002$, RMSEA = 0.043 (90% CI: 0.030; 0.055), close-test p value = 0.816, CFI = 0.971, TLI = 0.965 and SRMR = 0.048. Standardised factor loadings, AVE and CR values of measurement LMS Model 1 are shown in Appendix 7.3. Next, in step two, structural LMS Model 1 was estimated. LMS Model 1 retained the relationships displayed in Figure 7.10, including TA→BI relationship, but excluded TA x AT interaction.

The LMS Model 1 without the interaction term demonstrated satisfactory fit: MLR $\chi^2 = 267.963$, $df = 178$, $p = 0.0000$, RMSEA = 0.047 (90% CI: 0.035; 0.058), close-test p value = 0.652, CFI = 0.965, TLI = 0.959 and SRMR = 0.076. Standardised regression coefficients revealed that direct impact of TA on BI ($\beta = -0.094$, $p = 0.168$) was non-significant. The measurement and structural portions (i.e., unstandardised and standardised regression weights, t and p values and paths' regression coefficients) of this model are displayed in Appendix 7.12.A. The LMS Model 1 without the TA x AT interaction explained 57 % of variance in BI, 41.9% in AT and 16.8% in SMIP/DP. In step three, the LMS Model 1 with the TA x AT interaction was specified and estimated (i.e., XWITH command in *Mplus*). Specially, this model retained the entire relationships as displayed in Figure 7.10 including TA x AT interaction.

The relative fit of LMS Model 1 without interaction vs LMS Model 1 with the interaction term was determined via log-likelihood ratio test comparing log-likelihood values of both models (-9150.507 vs. -9146.952) and yielded a log-likelihood difference value of $D = 7.11$. D value calculation was based on the formula described earlier in this chapter. Based on the number of free parameters of LMS Model 1 without TA x AT interaction (74) and LMS Model 1 with TA x AT interaction (75) the difference in free parameters was estimated, and used as a df value in the log-likelihood ratio test (LR). Using chi-square distribution, the LR test proved significant ($p = 0.007$) indicating that LMS Model 1 without interaction term represents a significant loss in fit relative to the LMS Model 1 with the TA x AT interaction term. Maslowsky et al. (2014) posit that LMS models with the interaction effect included do not produce standardised estimations. However, standardized beta coefficients can be obtained by standardising data prior to analysis (Klein and Moosbrugger, 2000). The unstandardised measurement, unstandardised and standardized structural portions of LMS Model 1 with the TA x AT interaction term are displayed in Appendix 7.12.B. Figure 7.10 displays standardised regression coefficients produced in LMS Model 1 with TA x AT interaction term.

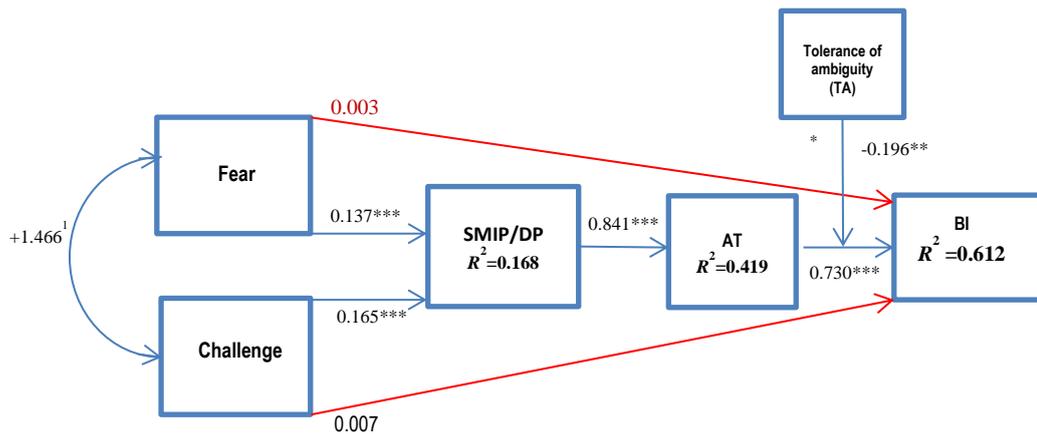


Figure 7.10: LMS Model 1 with TA x AT Interaction

Notes: Standardised regression weights (β) are presented
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 Non-significant paths are marked in red
 Variance explained (R^2) is marked in bold
¹ Unstandardised correlation coefficient
 TA x AT interaction estimation and its impact on AT \rightarrow BI
 N=228

The interaction effect of TA with AT was negative and significant ($\beta = -0.196$, $p = 0.0012$) as predicted by H_6 . Plotting this interaction effect, revealed that the relationship between AT and BI becomes less strong as TA increases (Figure 7.11), thus supporting H_6 .

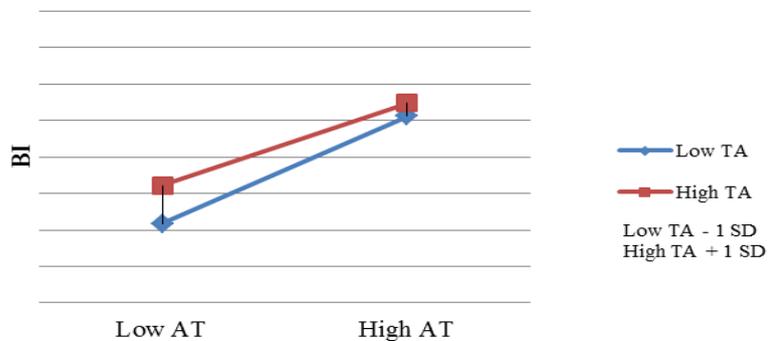


Figure 7.11: Plot of TA x AT Interaction and Its Impact on AT \rightarrow BI Relationship

In order to interpret the interaction effect size, the method described earlier in this chapter was used to calculate R^2 for LMS Model 1 with TA x AT interaction, which yielded a value of $R^2 = 0.612$, or 61.2% of BI variance explained. The R^2 difference between LMS Model 1 without interaction term and LMS Model 1 with the TA x AT interaction (i.e., $\Delta R^2_Y = 0.612 - 0.570$) yielded a value for the interaction effect equivalent to 0.042, or an additional 4.2 % of variance explained by interaction between TA and AT.

7.10.2. LMS Model 2

The hypothesised LMS Model 2 (Figure 7.12) predicted significant interaction between tolerance of negative emotions (TNE) (i.e., fear) and SMIP/DP in respondents who felt fear after advertisement exposure. Such interaction was hypothesised (H₇) to reduce strength of the direct effect between SMIP/DP and AT. Standardised factor loadings, AVE and CR values of LMS measurement Model 2 were previously displayed in Appendix 7.3. The measurement model exhibited good fit: MLR $\chi^2 = 133.504$, $df = 93$, $p = 0.0038$, RMSEA = 0.055 (90% CI: 0.032; 0.075), close-test p value = 0.338 CFI = 0.963, TLI = 0.952 and SRMR = 0.054.

Next, the structural LMS Model 2 was estimated. As previously described, this model retained the structural relationships hypothesised in LMS Model 2 (Figure 7.12), including TA → BI relationship, but excluding TNE x SMIP/DP interaction. This model also demonstrated good fit: MLR $\chi^2 = 136.041$, $df = 97$, $p = 0.0055$, RMSEA = 0.053 (90% CI: 0.029; 0.072) close-test p value = 0.400, CFI = 0.964, TLI = 0.956 and SRMR = 0.055. The measurement and structural portions of LMS Model 2 without interaction term are shown in Appendix 7.13.A. Standardised regression coefficients revealed that the direct impact of TNE on AT was non-significant ($\beta = 0.151$, $p = 0.77$). Overall, the model explained 46.2% of variation in BI, 56.9% in AT and 12% in SMIP/DP. Next, the LMS Model 2 with TNE x SMIP interaction term was specified and estimated (Figure 7.12)

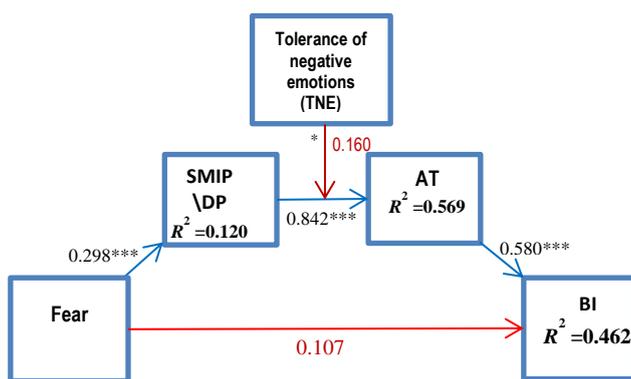


Figure 7.12: LMS Model 2 with TNE x SMIP/DP Interaction

Notes: Standardised regression weights (β) are presented
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 Non-significant paths are marked in red
 Non-significant interaction is marked in red
 * Estimation of TNE x SMIP/DP interaction and its impact on SMIP/DP → AT
 Variance explained (R^2) is marked in bold
 N=145

As before, relative fit of LMS Model 2 without interaction versus LMS Model 2 with the TNE x SMIP/DP interaction was determined via log-likelihood ratio test comparing log-likelihood values of both models (-4535.245 vs. -4536.311) and yielding a log-likelihood difference value of $D = 2.132$ with the number of free parameters difference between two models = 1 (i.e., 55 vs 56). Using chi-square distribution, the log-likelihood ratio test revealed non-significant difference between two models as p value was 0.144252 at $p < 0.05$ indicating LMS Model 2 without interaction represents a non-significant loss in fit relative to LMS Model 2 with TNE x SMIP/DP interaction. The interaction of TNE x SMIP/DP was non-significant ($\beta = 0.160$, $p = 0.077$) (Figure 7.12); hence H_7 was not supported. The measurement (unstandardized) and structural portions (standardised) of LMS Model 2 with TNE x SMIP/DP interaction are displayed in Appendix 7.13.B

7.10.3. LMS Model 3

The hypothesised LMS Model 3 (Figure 7.13) predicted significant interactions between involvement with the advertisement (INV), self-accountability (SA) and response efficacy (RE) with SMIP/DP, regardless of felt emotions (i.e., H_8 , H_9 , H_{10}). Such interactions were proposed to strengthen the direct relationship between SMIP/DP and AT. Standardised factor loadings, AVE and CR values of LMS Model 3 (i.e., measurement model including all moderators) reached satisfactory thresholds and were shown in Appendix 7.3. Prior to modelling all hypothesised interactions simultaneously, each single interaction was specified and estimated separately.

First, the measurement part of LMS Model 3 including only SA latent construct was specified and estimated. The measurement model with SA latent construct exhibited good fit: MLR $\chi^2 = 300.623$, $df = 154$, $p = 0.0000$, RMSEA = 0.046 (90% CI: 0.038; 0.053), close-test p value = 0.814, CFI = 0.968, TLI = 0.961 and SRMR = 0.051. Then, structural LMS Model 3 including SA constructs was specified and estimated. The fit indices were satisfactory. In particular, MLR $\chi^2 = 334.025$, $df = 160$, $p = 0.0000$, RMSEA = 0.049 (90% CI: 0.042; 0.056), close-test p value = 0.587, CFI = 0.962, TLI = 0.955 and SRMR = 0.070.

As previously discussed, the LMS Model 3 retained the structural relationships hypothesised in LMS Model 3 (Figure 7.13), including SA \rightarrow AT relationship, but excluding SA x SMIP/DP interaction. RE and INV moderators were also excluded from

the interaction modelling. The structural regression coefficients in LMS Model 3 without SA x SMIP/DP interaction indicate that the direct impact of SA on AT was non-significant ($\beta = -0.061, p = 0.287$). Overall, this model explained 52% of variation in BI, 52.7% in AT and 21.1% in SMIP/DP. Measurement and structural portions of LMS Model 3 without SA x SMIP/DP interaction term are displayed in Appendix 7.14.A.

Next, the SA x SMIP/DP interaction was specified and estimated. The relative fit of LMS Model 3 without SA x SMIP/DP interaction versus LMS Model 3 with the SA x SMIP/DP interaction was determined via a log-likelihood ratio test comparing log-likelihood values of both models (-17636.834 vs. -17632.701) and yielding a log-likelihood difference value of $D = 8.266$ with the number of free parameters difference (70 vs 71) between two models ($\Delta df = 1$). Using chi-square distribution, the log-likelihood ratio test revealed significant difference between the two models ($p = 0.004$), indicating that LMS model without SA x SMIP/DP interaction represents a significant loss in fit relative to the model with the interaction term. Based on the results, SA x SMIP/DP interaction yielded significant results ($\beta=0.259, p=0.008$) (Figure 7.13). Appendix 7.14.B displays all measurement and structural portions included into the LMS Model 3 with the SA x SMIP/DP interaction term.

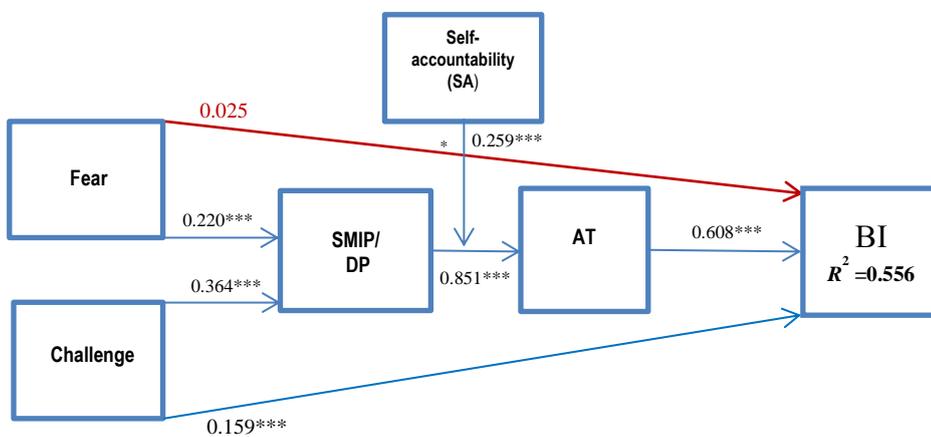


Figure 7.13: LMS Model 3 with Single SA x SMIP/DP Interaction

Notes:
 Standardised regression weights (β) are presented
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 * Estimation of SA x SMIP/DP interaction and its impact on SMIP/DP→AT
 Non-significant path are marked in red
 N=455

Plotting this interaction effect revealed that the relation between SMIP/DP and AT is strengthened as SA increases (Figure 7.14).

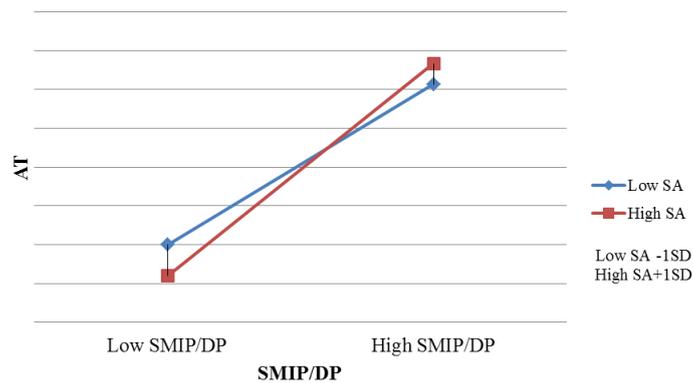


Figure 7.14: Plot of SA x SMIP/DP Interaction and Its Impact on SMIP/DP →AT Relationship

LMS Model 3 with SA x SMIP/DT interaction yielded a value of $R^2 = 0.556$ or 56% of variance explained on BI. The difference of variance explained values (ΔR^2) between LMS Model 3 without interaction and LMS Model 3 with SA x SMIP/DP interaction, (i.e., $\Delta R^2_Y = 0.556 - 0.520$) yielded the value for interaction size effect of 0.036 or an additional 3.6% of variance explained by SA x SMIP/DP interaction.

Next, LMS Model 3 with RE construct was specified and estimated. The fit of the measurement model with RE latent construct exhibited good fit: MLR $\chi^2 = 246.487$, $df = 136$, $p = 0.0000$, RMSEA = 0.042 (90% CI: 0.034; 0.051), close-test p value = 0.936, CFI = 0.975, TLI = 0.968 and SRMR = 0.043 (see Appendix 7.3 for the rest of measurement model estimates). As previously, LMS Model 3 (Figure 7.15) retained all the relationships in a main model including RE→AT relationship, but excluding RE x SMIP/DP interaction. This model produced acceptable fit indices, such as MLR $\chi^2 = 316.104$, $df = 142$, $p = 0.0000$, RMSEA = 0.052 (90% CI: 0.044; 0.060), close-test p value = 0.331, CFI = 0.960, TLI = 0.952 and SRMR = 0.075. Standardised regression coefficients indicate that the direct impact of RE on AT was negative and significant ($\beta = -0.309$, $p = 0.015$). The measurement and structural portions of LMS Model 3 without RE x SMIP/DP interaction are displayed in Appendix 7.15.A. Overall, this model explained 53% of variation in BI, 57.2% in AT and 21.5% in SMIP/DP. Next, the LMS Model 3 with RE x SMIP/DP interaction was estimated and the relative fit of this model versus LMS Model 3 without RE x SMIP/DP interaction was compared. Log-likelihood values of both models (-16545.887 vs. -16539.836) resulted in a log-likelihood difference value of $D = 6.051$ with the number of free parameters difference between two models ($\Delta df = 67 - 68 = 1$). The log-

likelihood ratio test revealed significant difference between the two models ($p = 0.013$) indicating that the LMS Model 3 without RE x SMIP interaction represents a significant loss in fit relative to the LMS Model 3 with the interaction term. The standardised structural portions, indicate that RE x SMIP/DP interaction in LMS Model 3 was significant ($\beta = 0.293, p = 0.001$) (Figure 7.15).

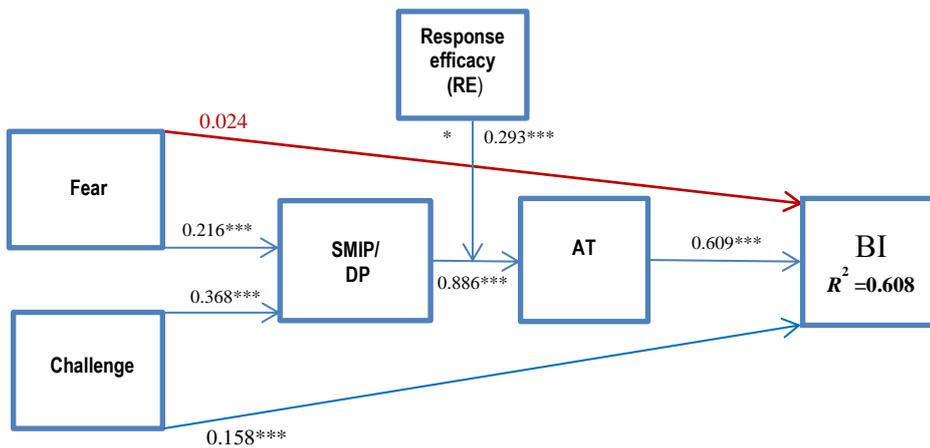


Figure 7.15: LMS Model 3 with Single RE x SMIP/DP Interaction

Notes Standardised regression weights (β) are presented
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 Non-significant path is marked in red
 * Estimation of RE x SMIP/DP interaction and its impact on SMIP/DP → AT
 N=455

The measurement and structural portions (i.e., unstandardized and standardised regression weights, t and p values) of LMS Model 3 including single RE x SMIP/DP interaction are shown in Appendix 7.15.B. Plotting RE x SMIP/DP interaction effect revealed that the relationship between SMIP/DP and AT is strengthened as RE increases (Figure 7.16)

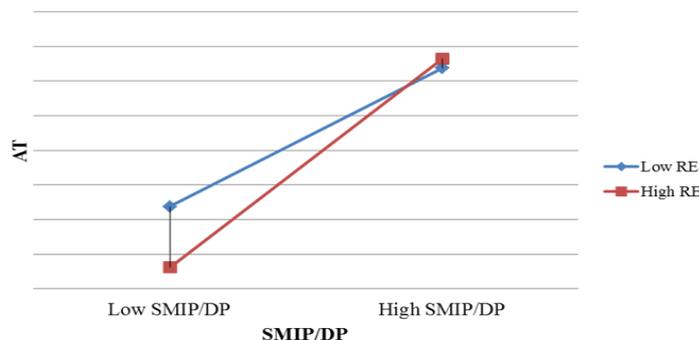


Figure 7.16: Plot of RE x SMIP/ DP Interaction of and Its Impact on SMIP/DP → AT Relationship

The R^2 for LMS Model 3 with RE x SMIP/DP interaction yielded a value of 0.608 or 60.8% of the variance explained. The R^2 difference between two LMS models (i.e., model with interaction vs model without interaction) produced a value of $\Delta R^2_Y = 0.038$ or an additional 3.8% of variance explained by RE x SMIP/DP interaction.

Next, the measurement LMS Model 3 with INV as a moderator was specified and assessed. The measurement model with INV latent construct exhibited good fit after error term of INV3 indicator item (i.e., “how much attention you paid to process the advertisement ?”) was correlated with error term of INV1 indicator item (i.e., “what was the overall attention you had with the advertisement”) as guided by theory and empirical findings (i.e., modification indices). The fit indices of structural LMS Model 3 including a new INV→AT relationship, but excluding INV x SMIP/DP interaction exhibited good fit: MLR $\chi^2 = 240.922$, $df = 152$, $p = 0.0000$, RMSEA = 0.036 (90% CI: 0.027; 0.044), close-test p value = 0.998, CFI = 0.983, TLI = 0.979 and SRMR = 0.033. Appendix 7.16.A displays measurement and structural portions of this model. The structural standardised regression coefficients indicate that the direct impact of INV on AT was significant ($\beta = 0.220$, $p = 0.000$). Overall, LMS Model 3 without INV x SMIP/DP interaction term explained 49.9% of variation in BI, 45.4% in AT, and 22.3% in SMIP/DP.

Then, the LMS Model 3 with the INV x SMIP/DP interaction was specified and estimated and relative fit of both models (LMS Model 3 with INV x SMIP/DP interaction versus Model LMS Model 3 without such interaction) was compared. The log-likelihood values of both models (-17150.955 vs.-17140.980) resulted in a log-likelihood difference value of $D = 9.975$ with the number of free parameters difference between two models of 1 ($\Delta df = 72 - 73=1$).

The log-likelihood ratio test revealed significant difference between the two models ($p = 0.001587$) indicating that the LMS Model 3 without the interaction represents a significant loss in fit relative to the LMS Model 3 with INV x SMIP/DP interaction term. The unstandardised measurement and standardised structural portions of LMS Model 3 with INV x SMIP/DP interaction, are displayed in Appendix 7.16.B. Interactions of INV x SMIP/DP produced significant results ($\beta = 0.266$, $p = 0.000$) (Figure 7.17)

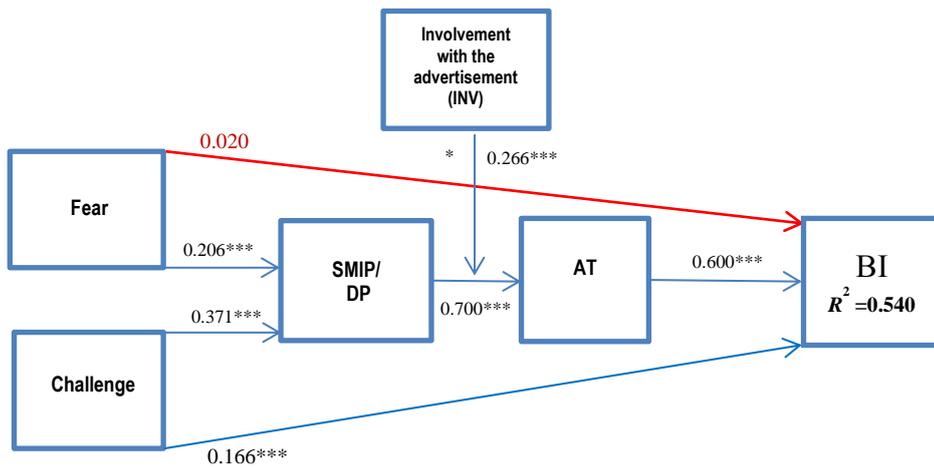


Figure 7.17: LMS Models 3 with a Single INV x SMIP/DP Interaction

Notes: Standardised regression weights (β) are presented
 $p^* < .05$ (2-tailed), $p^{**} < .01$ (2-tailed), $p^{***} < .001$ (2-tailed)
 Non-significant path is marked in red
 * Estimation of RE x SMIP/DP interaction and its impact on SMIP/DP → AT
 N=455

Plotting INV x SMIP/DP interaction effect revealed that the relationship between SMIP/DP and AT is strengthened as INV increases (Figure 7.18). The explained variance in LMS Model 3 with INV x SMIP/DP interaction yielded a value of $R^2 = 0.540$ or 54% of variance explained in BI and produced the interaction size effect of 0.041 or 4.1% of additional variance explained by INV x SMIP/DP interaction.

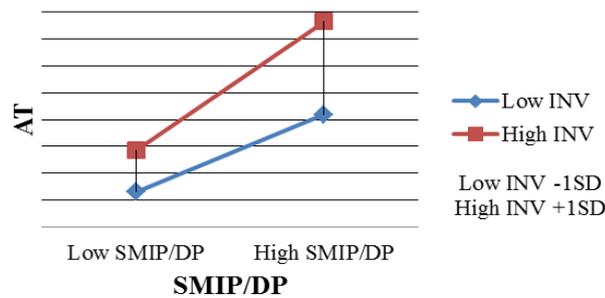


Figure 7.18: Plot of INV x SMIP/DP Interaction and Its Impact on SMIP/DP → AT Relationship

Finally, three simultaneous interactions of SA x SMIP/DP, RE x SMIP/DP and INV x SMIP/DP were included into LMS Model 3 and estimated. Figure 7.19 schematically outlines concurrent SA x SMIP, RE x SMIP/DP and INV x SMIP/DP interactions in LMS Model 3.

The measurement portion of LMS Model 3 with three moderators (Appendix 7.3) exhibited good fit MLR $\chi^2 = 485.679$, $df = 270$, $p = 0.0000$, RMSEA = 0.042 (90% CI: 0.036; 0.048),

close-test p value = 0.988, CFI = 0.964, TLI = 0.957 and SRMR = 0.048. Next, structural model LMS Model 3 with INV, SA and RE latent constructs including INV→AT, SA→AT, and RE →AT relationships, but without INV x SMIP/DP, SA x SMIP/DP and RE x SMIP/DP interactions was estimated. This model demonstrated satisfactory fit: MLR $\chi^2 = 643.712$, $df = 279$, $p = 0.0000$, RMSEA = 0.054 (90% CI: 0.048; 0.059), close-test p value = 0.135, CFI = 0.940, TLI = 0.930 and SRMR = 0.085. The structural standardised regression coefficients indicate that direct impact of INV on AT was positive and significant ($\beta = 0.297$, $p = 0.000$) and both RE ($\beta = -0.190$, $p = 0.016$) and SA ($\beta = -0.120$, $p = 0.047$) exerted significant and negative direct impact on AT. The measurement and structural portions of LMS Model 3 without interactions are displayed in Appendix 7.17.A. Overall, this model explained 51.1% of variation in BI, 53.3% in AT and 22.7% in SMIP/DP.

Next, the LMS Model 3 with three simultaneous interactions between INV x SMIP/DP, SA x SMIP/DP and RE x SMIP/DP was specified and estimated (Figure 7.19). The relative fit of LMS Model 3 without simultaneous interactions versus LMS Model 3 with SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP interactions was determined via log-likelihood ratio test (LR) comparing the log-likelihood values between two models (-22134.493 vs -22181.502). LR test produced a log-likelihood difference value of $D = 94.018$ with the number of free parameters difference between two models equalling 3 ($101-98=3$). Using chi-square distribution, the log-likelihood ratio test shown significant differences between the two models (p value = <0.00001), indicating that the LMS Model 3 without simultaneous interactions represents a significant loss in fit relative to the LMS Model 3 with SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP interaction terms. The measurement (i.e., unstandardised coefficients), and structural portions (i.e., unstandardised and standardised coefficients) of LMS Model 3, including all concurrent interactions are displayed in Appendix 7.17.B. Interactions of SA x SMIP/DP ($\beta = -0.032$, $p = 0.806$) and RE x SMIP/DP ($\beta = 0.085$, $p = 0.652$) yielded non-significant results. However, INV x SMIP/DP interaction remained significant ($\beta = 0.310$, $p = 0.000$). Figure 7.19 schematically outlines standardised regression coefficients produced in LMS Model 3 with simultaneous SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP interactions

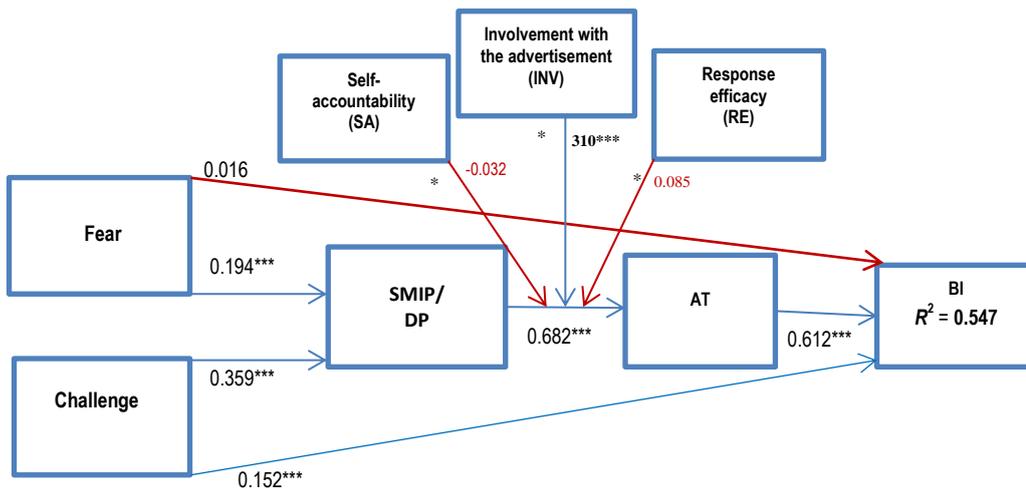


Figure 7.19: LMS Model 3 with Simultaneous SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP Interactions

Notes:

Standardised regression weights (β) are presented

$p < .05$ (2-tailed), $p < .01$ (2-tailed), $p < .001$ (2-tailed)

Non-significant paths are marked in red

Non-significant interactions are marked in red

* Estimates of SA x SMIP/DP, RE x SMIP/DP, INV x SMIP/DP interactions and their impact on SMIP→AT

Variance explained in BI (R^2) is marked in bold

N=455

As before, plotting INV x SMIP/DP interaction effect confirmed that the relationship between SMIP/DP and AT strengthened as INV increased (Appendix 7.17.C).

Variance explained for LMS Model 3 with simultaneous interactions yielded a value of $R^2 = 0.547$ or 54.7% explained variance in BI. Subtracting R^2 of LMS Model 3 without interactions from R^2 of LMS Model 3 with simultaneous interactions (ΔR^2_y) produced the value of 0.036 or an additional 3.6% of variance explained by INV x SMIP/DP interactions in a combined model.

In conclusion, when modelled separately, analysis results of LMS Model 3 indicate that SA ($\beta = 0.259$, $p = 0.008$), RE ($\beta = 0.293$, $p = 0.001$) and INV ($\beta = 0.266$, $p = 0.000$) significantly interact with SMIP/DP. Each interaction strengthened the direct relationship between SMIP and AT. However, when the three moderators modelled simultaneously only INV x SMIP/DP interaction remained significant ($\beta = 0.310$, $p = 0.000$). Thus, H_8 and H_9 were partially supported, while H_{10} was fully supported. The summary of all analysis results are discussed next.

7.11. Summary

In this chapter, the hypothesised direct and indirect impact of evoked emotion/s on help-seeking behaviour intentions (BI) via mediating variables of systematic mode and depth of information processing (SMIP/DP) and attitude towards the advertisement (AT) were tested within individual models (SEM Model 1 of fear mixed with challenge appeals, SEM Model 2 of fear appeals and SEM Model 3 of challenge appeals). Retaining the original three SEM models, these were compared to identify the strongest indirect impact of evoked emotions on help-seeking behavioural intentions. Additionally, Kruskal Wallis testing was performed to compare differences in mean statistics in help-seeking behavioural intentions among at-risk gamblers exposed to fear mixed with challenge, fear and challenge appeals respectively.

Finally, the latent moderated structural equation method (LMS) was applied across emotional appeals (LMS Model 3) to investigate the moderating impact of response efficacy (RE), self-accountability (SA) and involvement with the advertisement (INV) on the relationship between SMIP/DP and AT. Similarly, additional LMS models were estimated to test for moderating effects postulated in the conceptual model for respondents exposed to fear appeals (LMS Model 2) and respondents exposed to fear mixed with challenge appeals (LMS Model 1).

In particular, LMS Model 1 investigated latent interaction between tolerance of ambiguity (TA) with AT and determined if such interaction weakened the direct relationship between AT and BI as hypothesised. Furthermore, LMS Model 2 estimated the interaction between tolerance of negative emotions (TNE) and SMIP/DP and explored if TNE x SMIP/DP interaction also weakened the direct relationship between SMIP/DP and AT.

The majority of the stated hypotheses were supported (Table 7.5) and several important findings emerged. Empirical results confirmed that emotional blends, such as fear mixed with challenge, positively impacted on systematic mode and depth of information processing (SMIP/DP). Likewise, mild fear appeal used in the current study influenced systematic mode and depth of information processing (SMIP/DP) in at-risk gambling respondents. Furthermore, positive state of challenge in both appeals (fear mixed with challenge and challenge alone) was a strong predictor of SMIP/DP, confirming that

positive emotions as discrete categories of the same valence (i.e., feeling hopeful, determined, inspired and eager) positively influence SMIP/DP and indirectly impact on help-seeking judgements and intentions (AT and BI). This finding is contrary to the majority of Heuristic Systematic Model (HSM) postulates claiming that positive affect prompts heuristic mode of information processing. Furthermore, SMIP/DP and AT consistently, and across three different emotional appeals, mediated the impact of emotions on BI as hypothesised. Likewise, empirical results of the current study, across three different emotional appeals, supported the hypothesis that a message processed heuristically produces insignificant impacts on help-seeking behavioural intentions among gamblers.

Interesting findings were revealed in regards to latent interactions illustrated in the conceptual framework. As predicted, a-priori individual characteristic, such as tolerance of ambiguity, proved to significantly and negatively interact with AT and weaken the direct relationship between AT and help-seeking BI for respondents who experienced fear mixed with challenge. Contrary to predictions, tolerance of negative emotions did not produce significant interaction with SMIP/DP. One explanation for non-significant results of such interaction could be the level of fear experienced by respondents. Based on the Human Research Ethic Committee requirements, this study designed fear appeals to produce a mild/medium level of fear. Thus, advertising stimuli may not reach the cognitive avoidance threshold associated with strong fear appeals in which a-priori tolerance of negative emotions could weaken the direct relationship between SMIP/DP and AT.

Involvement with the advertisement (INV) emerged as the strongest moderator to strengthen the direct relationship between SMIP/DP and AT across tested emotional appeals when modelled alone or simultaneously with response efficacy (RE) and self-accountability (SA). This study revealed that, when modelled simultaneously with INV, SA and RE did not produce significant interactions with SMIP/DP. Nevertheless, response efficacy and self-accountability should be considered as important individual consumer characteristic variables, since when modelled alone, they strengthened the direct relationship between SMIP/DP and AT as predicted. An additional and not hypothesised observation was detected while modelling INV, SA and RE interactions with SMIP/DP.

Specifically, when SA x SMIP/DP, RE x SMIP/DP and INV x SMIP/DP interactions were estimated, challenge retained its direct and positive impact on SMIP/DT, but additionally, directly and positively influenced BI, prompting both modes of information processing (i.e., heuristic and systematic) simultaneously. However, the direct impact of fear on BI remained non-significant during interaction modelling. This finding suggests that individual consumer characteristics such as RE, SA and INV enhance the ability of positive emotions associated with challenge (i.e., feeling hopeful, inspired, determined and eager) to boost information processing and predispose consumers to process information through both modes, since both forms of processing can take place simultaneously as consumers process information to the point they regard as sufficient. Last, both multi-group SEM model and Kruskal Wallis testing confirmed that elicited fear mixed with challenge had the strongest indirect impact on help-seeking behavioural intentions in gambling respondents. An understanding of the significance of results, contribution to theory and practical implications, as well as study limitations and future research, are discussed in the next chapter.

Table 7.5: Summary of Confirmed and Disconfirmed Hypothesis Based on Empirical Results of the Current Study

<p>H₁. Feelings of fear (H_{1a}), challenge (H_{1b}), and fear (H_{1a}), mixed with challenge (H_{1b}) have a significantly positive influence on systematic mode and depth of information processing.</p>	<p>(H_{1a}) Supported (H_{1b}) Supported</p>
<p>H₂. A systematic mode and depth of information processing significantly and positively influences attitudes towards an advertisement.</p>	<p>Supported</p>
<p>H₃ Attitude towards an advertisement significantly and positively influences help-seeking behavioral intentions.</p>	<p>Supported</p>
<p>H₄ Both, systematic mode/depth of information processing and attitude towards the advertisement mediate the impact of evoked emotions (i.e., fear, challenge, fear mixed with challenge) on help-seeking behavioral intentions.</p>	<p>Supported</p>
<p>H₅. Regardless of evoked emotion/s (H_{5a} for fear and H_{5b} for challenge and fear (H_{1a}), mixed with challenge (H_{1b}) no significant impact on behavioral intentions results if the message is processed heuristically.</p>	<p>(H_{5a}) Supported (H_{5b}) Supported</p>
<p>H₆ A significant interaction between tolerance of ambiguity and attitude towards the advertisement significantly reduces the effect between attitude towards the advertisement and help-seeking behavioural intentions for respondents who felt predominately fear mixed with challenge.</p>	<p>Supported</p>
<p>H₇ A significant interaction between distress tolerance for negative emotions (i.e. fear) and systematic mode/depth of information processing significantly reduce the effect between systematic mode/depth of information processing and attitude towards advertisement for respondents who felt predominately fear.</p>	<p>Not supported</p>
<p>H₈ Regardless of elicited emotion/s after ad exposure, significant interaction between self-accountability and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards an advertisement</p>	<p>Supported when modeled alone Not supported when combined with INV/RE</p>
<p>H₉ Regardless of elicited emotion/s after ad exposure, significant interaction between response efficacy and systematic mode/depth of information processing strengthens the effect between systematic mode/depth of information processing and attitude towards the advertisement.</p>	<p>Supported when modeled alone Not supported when combined with INV/SA</p>
<p>H₁₀. Regardless of elicited emotion/s after ad exposure, significant interaction between involvement with the advertisement and systematic mode/depth of information processing significantly strengthens the effect between systematic mode/depth of information processing and attitude towards advertisement.</p>	<p>Supported</p>
<p>H₁₁ Evoked feelings of fear mixed with challenge ultimately have significantly more positive impact on consumers' help-seeking behavioral intentions in comparison to fear-only or challenge-only elicited emotions.</p>	<p>Supported</p>

Chapter 8: Discussion and Conclusions

8.1. Introduction

This chapter highlights the key findings of the current study. It also outlines how these findings add to the theoretical, empirical, and practical body of knowledge within the advertising, consumer behaviour and social marketing domains. A discussion of the study limitations is provided to explain the boundaries within which the results should be interpreted and utilised. Finally, directions for future research and study conclusions are presented.

8.2. Contributions

8.2.1. Theoretical Contributions

This study provided an extensive review of the theoretical and empirical literature from the advertising, consumer behaviour, and social psychology domains, identifying several gaps in extant knowledge regarding the direct and indirect influence of positive, negative, and mixed emotions on systematic mode and depth of information processing (SMIP/DP), attitude towards the advertisement (AT), and help-seeking behavioural intentions (BI). Identified gaps in knowledge were used to form the basis of a new and comprehensive conceptual framework which integrated emotional, cognitive, attitudinal, and behavioural variables to evaluate advertising message processing across fear, challenge, and fear mixed with challenge appeals. This study united various theoretical frameworks, such as the Cognitive Phenomenological Theory of Emotions (Lazarus et al., 1980), the Revised Protection Motivation Model (Arthur and Quester, 2004), and the Heuristic Systematic Model (Eagly and Chaiken, 1993) to examine the direct and indirect impacts of fear, challenge, and fear mixed with challenge on information processing modes, attitudes, and help-seeking intentions.

The Revised Protection Motivation Model (RPMM) (Arthur and Quester, 2004) is focused on the antecedents and consequences of fear and explains its impact on behaviour in various social marketing contexts. The RPMM predicts that two cognitive appraisals mediate the effects of emotional appeal on behaviour. The first appraisal includes evaluations of perceived severity (i.e., the potential size of the loss) and perceived vulnerability/susceptibility (i.e., the likelihood that the recipient can be affected by the loss) which result in fear.

The second appraisal is related to the response to the threat, the self-efficacy, that is, the degree to which the respondent believes he/she can cope with the threat and avoid the negative consequences of the threat; and second, the response efficacy, that is, the degree to which the way to cope with the threat is perceived as efficacious.

Similarly, the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980) is focused on cognitive appraisals of threat and challenge and predicts the impact of such appraisals on consumers' coping behaviour, specifically stating that if a stressful encounter (i.e., fear mixed with challenge emotional appeal) centres not only on anticipatory threats with the potential for harm and loss, but also on anticipatory positive expectations and potentials for gain and mastery, then both emotions of fear and challenge are apt to be experienced.

However, both theoretical frameworks are limited in explaining the impact of emotion/s on information processing modes and its impact on consumers' attitudes. Antecedents of attitudes (i.e., systematic /heuristic modes and depth of processing) are explored by the Heuristic-Systematic Model (HSM) which is based on the assumption that attitudes are formed and modified as people gain information about attitude objects or targets of judgment, including people, places or messages (Chaiken, 1980, Eagly and Chaiken, 1993). Attitudes formed through systematic mode of information processing are more desirable within a public health/ social marketing context, as research has demonstrated that they are stronger attitudes that persist over time and positively impact on behaviour (Petty et al., 1995, Yeh and Jewell, 2015). Even though the HSM acknowledges the impact of negative affect on modes of information processing, it fails to consider the impact of mixed emotions (i.e., fear mixed with challenge) on information processing modes, attitudes and intentions.

Hence, combining these theoretical frameworks focused on emotional, cognitive, attitudinal and behavioural variables adds to our understanding about the decision-making process of help-seeking behavioural intentions and the mechanism behind advertising strategies in engaging, motivating and persuading at-risk respondents to seek professional help. In exploring motivational factors behind modes and depth information processing, this study contributes to our understanding of the roles of emotion/s to boost information processing enclosed in the message.

In particular, united RPMM, CPHTE and HSM map out the relationships between variables of paramount importance in advertising such as emotions, cognitions, attitudes and behaviours, enabling to identify which emotion/s, positive, negative or mixed, and under which conditions (direct/indirect impacts, and a-priori difference characteristics) act as facilitators or inhibitors of message information processing and impact on individual attitudes and help-seeking intentions.

The theoretical insights from social/clinical psychology bridged with marketing and consumer behaviour in one conceptual framework yielded interesting theoretical findings. In particular, the notion derived from positive psychology that mixed emotions enhance one's ability to focus on stressful information (Larsen et al., 2003) and enables individuals to work through and transcend negative emotion more effectively, was extended by the current research into the social marketing and advertising domains. United RPMT, CPHTE and HSM models allowed investigating this notion and applying it to the advertising and social marketing contexts.

This research increases our understanding of the importance of emotional communication so that it operate in tandem with its rational counterpart since effective advertising is seen as a "*rational idea enclosed as it were in an emotional envelope*" (Jones, 2002) and "*typically works on both the cognitive and affective planes*" (Vakratsas and Ambler, 1999). Hence, united RPMT, CPHTE and HSM provide a greater understanding and stronger inferences to be drawn from the social marketing communication process and permit an understanding of the sequence of effects that leads to help-seeking behavioral intention in consumers exposed to various emotional ads. In particular, the proposed and tested theoretical framework confirmed that an emotional blend of fear with challenge indirectly, via cognitive mediators of SMIP/DP and AT, exerts the strongest positive impact on help-seeking intentions, in comparison to fear or challenge appeals, among at-risk gamblers. Additionally, developing theory for emotional advertising in the context of problem gambling is important because just as is the case with "common advertising," people with social problems need to be aware of products and services that would benefit them (Calderwood and Wellington, 2013).

Furthermore, marketing communication is evolving to an era of tailored messages targeted at individuals and more sophisticated segmentation of target audiences (De Meulenaer et al., 2015). By exploring a-priori individual consumer characteristics, such as tolerance of ambiguity and tolerance of negative emotions, as moderators previously untested in the social marketing domain, current research adds to the theoretical understanding of information processing patterns among various respondents. Moreover, individual consumer differences, such as response efficacy, self-accountability, and involvement with the advertisement were tested to strengthen the relationship between systematic mode and depth of processing and attitude towards the advertisement to highlight the importance of individual consumer characteristics and its impact on advertising effectiveness.

8.2.2. Methodological Contributions

This study utilised a comprehensive research strategy of qualitative and quantitative research methods to gain a thorough understanding of the antecedents and consequences of fear, challenge, and fear mixed with challenge, and the direct and indirect impact of emotions on help-seeking intentions. The synthesis of research paradigms, both interpretist and positivist, is an accepted method of data triangulation to enhance validity (Brannen, 2003) and provides additional perspectives and insights beyond the scope of a single technique (Creswell and Clark, 2007).

The qualitative study complied with the recommendations of Calderwood and Wellington (2013) that any advertising initiative for vulnerable populations, in this study gambling-afflicted consumers, must undergo participatory research in the development phase to minimise the chances of disseminating stigma associated with problem gambling. Advertising stimuli professionally designed for the study were further refined based on respondent feedback as disregarding participants perceptions, opinions and beliefs may result in message misinterpretation and non-compliance (Carter et al., 2011, Calderwood and Wellington, 2013).

The quantitative component of this study resulted in collection of a relatively large dataset of 455 at-risk gambling respondents and was executed through the web-based survey, Qualtrics. The panel of respondents had diverse socio-economic characteristics; age ranged from 19 to 75 years and selected respondents were actively involved in various gambling

activities on a weekly or daily basis. The web-based survey ensured greater access to Australian gambling-afflicted participants. Moreover, use of an anonymous on-line survey increased the likelihood of honest self-administered questionnaire responses to sensitive questions in the gambling context. The inclusion of previously validated measures and extensive pre-testing undertaken prior to empirical analysis ensured reliability and validity of conclusions drawn from the empirical results.

The hybrid methodology of the present research, that is web-based survey with quasi-experiment, enabled experimental subjects to be randomly assigned to variations of the independent variables (i.e., fear appeal, challenge appeal, and fear mixed with challenge appeal) in order to observe and model the direct/indirect effects of various emotions on help-seeking behavioral intentions. Analysis of quasi-experimental data using structural equation modelling (SEM) and latent moderated structural equations (LMS) facilitated concurrent integration of emotional, cognitive and attitudinal factors into various models investigating direct and indirect impacts of fear, challenge and fear mixed with challenge on help-seeking intentions of problem gamblers.

Marketing and advertising literature commonly reports on the multi -group approach in which the moderator is investigated as the grouping variable. However, the drawback of such subgroup approach is lower power and loss of information in the grouping variable (Edwards and Lambert, 2007). Methodologically, current study contributes to estimate the moderating impact of several latent interactions between independent latent variables outlined in the conceptual model in order to determine the strongest moderating impact among proposed moderators. Largely unaddressed in the marketing literature, the Latent Moderated Structural Equations technique (LMS) (Maslowsky et al., 2014) used in current study, enabled examination of latent variable interactions of several individual consumer characteristics, alone and concurrently, and revealed the impacts of proposed interactions on relationships between SMIP/DP→AT and AT→BI. The additional strength of LMS is to produce estimates of concurrent latent interactions that are unaffected by measurement error (Little et al., 2006), which serves to increase a study's power and reduce the likelihood of biased estimates.

Overall, mediation, moderation and multi-group analysis were performed to comprehensively evaluate the conceptual model across fear mixed with challenge, fear and challenge emotional appeals.

8.2.3. Empirical Contributions

8.2.3.1. The Effectiveness of Mild Fear Appeals to Enhance Help-seeking Intentions in the Gambling Context

The current study addressed existing controversy regarding the effectiveness of fear appeals on behavioural intentions in various social marketing contexts (Peters et al., 2012, Morales et al., 2012, Muñoz et al., 2013, Ruiter, Kessels, Peters and Kok, 2014, Lewis, Watson and White, 2013) by re-examining the direct and indirect roles of evoked fear on help-seeking behavioural intentions (BI) for at-risk gamblers. Additionally, conflicting evidence in the extant literature as to whether evoked fear stimulates information processing (Munoz et al., 2010) or disengages consumers from message processing (Kessels et al., 2010) was addressed in the current study, to clarify the impact of a mild fear appeal on modes and depth of information processing among Australian at-risk gamblers.

This study found empirical support for the hypothesis that, indirectly, evoked fear via cognitive responses (systematic mode and depth of information processing and attitude towards the advertising) positively and significantly impacted on help-seeking intentions. However, the direct impact of fear on help-seeking intentions was non-significant, suggesting that when the message is processed heuristically it has no significant impact on help-seeking behavioural intentions (BI). This empirical evidence has extended recent the findings of Muñoz et al. (2013) who compared the effectiveness of fear-eliciting graphics versus text warnings in Canadian problem gamblers (N=103) and found that graphic warnings had stronger impact on depth of information processing. Findings from the present study indicate that mild fear-eliciting graphic warnings *combined* with text connected to the central message in the gambling context enhances not only the depth of information processing but also predicts the systematic mode of information processing in Australian gamblers.

Previous research has raised questions of fear appeal ethicality (Arthur and Quester, 2003, Williams, 2011, Racela and Thoumrungroje, 2012), claiming that fear appeals boost chronic anxiety in vulnerable audience members such as children, the elderly, the infirm, and addicts (Hastings, Stead and Webb, 2004b). Observations from the current research, based on focus group discussions with problem gamblers, also confirmed that fear appeal in its extreme form (e.g., portrayal of a suicidal problem gambler) can be distressing and harmful to the targeted audience. As one participant pointed out a fear appeal with a suicidal theme “suggests a wrong way out and the problem gambler exposed to such ad may actually do it [commit suicide] out of desperation”. Hence, for the vulnerable population of gambling afflicted consumers, emotional appeals eliciting an intense fearful response are considered unethical and harmful, and should not be used in social marketing in the gambling context.

8.2.3.2. Positive Affective State of Challenge and Its Impact on Systematic Mode and Depths of Information Processing and Help-seeking Intentions

The current research also addressed contradicting empirical evidence regarding the Heuristic Systematic Model to determine whether positive emotions engender a predominately heuristic mode of information processing (Petty and Cacioppo, 1986, Petty, Rucker, Bizer and Cacioppo, 2004a, Eagly and Chaiken, 1993, Huber et al., 2014, Griskevicius et al., 2010). Critically, general reference to positive affect in the literature overlooks the differential impact that emotions within the same valence may have on information processing. This study has found empirical support for the hypothesis that hopefulness, inspiration, eagerness, and determination, which accompany the positive affective state of challenge, positively and significantly influenced the systematic mode and depth of information processing in gamblers exposed to challenge or fear mixed with challenge appeals. The present empirical findings support recent research based on the HSM framework (Huber et al., 2014, Griskevicius et al., 2010), which found that some positive emotions, namely feelings of care and security, nurturing love and compassion, prompt a systematic mode of information processing in consumers. The findings of this research extend the results of Schneider et al. (2009) who identified that challenge keeps respondents open to message processing, with empirical results of this study signifying that challenge positively influences the systematic mode and depth of information processing in

gambling-afflicted consumers. Furthermore, indirectly via SMIP/DP and AT, evoked challenge exerted a positive and significant impact on help-seeking intentions.

An additional observation to emerge from this research is the moderating impact of individual consumer characteristics on modes of information processing. In particular, for respondents high in response efficacy, self-accountability and involvement with the advertisement, evoked challenge triggered both modes of information processing (i.e., systematic *and* heuristic), positively and significantly impacting on help-seeking intentions in those consumers. However, the direct impact of challenge (i.e., heuristic processing) on help-seeking behavioural intentions, when these moderators were excluded from the model, was non-significant. This finding suggests that different individuals process messages using varying complex approaches, systematically, heuristically, or both, while attending to various message attributes (emotions) when evaluating social marketing appeals. Past research supported the hypothesis that positive emotion may loosen the hold that a negative emotion has on a person's mind by increase preference for variety and accept a broader array of behavioural options (Fredrickson and Branigan, 2005). Current study extends the notion that positive affect produces a broad, and flexible cognitive organisation and increases the ability to integrate diverse material in different consumers (Morris, ChongMoo and Singh, 2005), since both forms/modes of information processing took place simultaneously for respondents high in response efficacy, self-accountability and involvement with the advertisement .

8.2.3.3. Mixed Emotional Appeals: Fear Mixed with Challenge as a Conditioning Stimulus for Systematic Mode and Depth of Information Processing

One of the central empirical contributions of this research was to explain and evaluate the role of emotional blend, such as fear mixed with challenge, to prompt systematic mode and depth of information processing, and how it ultimately influences attitudes and help-seeking behavioural intentions. Past research investigating mixed emotions predominately focused on sadness mixed with happiness when exploring the impact of mixed emotions on information processing. For example, Hung and Mukhopadhyay (2014) examined the impact of the emotional blend of sadness mixed with happiness on information processing fluency.

The current study contributes to the extant knowledge regarding mixed emotional experiences in the advertising domain by exploring a novel combination of mixed emotions, that is, a blend of fear and challenge.

Furthermore, this study pioneered linking the Heuristic Systematic Model with mixed emotional appeals in order to explain the indirect impact of emotional blends on modes and depth of information processing, attitudes, and help-seeking behavioural intentions. Overall, the findings indicate that the fear mixed with challenge blend acts as a conditioning stimulus for information processing. Specifically, results of this study provide evidence to suggest that SMIP/DP and AT fully mediate the impact of the emotional blend (fear mixed with challenge) on BI. This finding extends those of Passyn and Sujan (2006) who were the first to explore fear mixed with challenge appeals in the social marketing context and claimed that challenge combined with fear positively impacts protective behaviour (i.e., sun screen usage against skin cancer) as challenge boosts self-accountability in consumers. Overall, the results of this study identify that the direct impact of fear mixed with challenge on BI (heuristic processing) did not yield a significant influence with at-risk gambling respondents; however, when processed systematically, fear mixed with challenge prompted the highest help-seeking intentions in consumers via SMIP/DP and AT.

8.2.3.4. The Moderating Impact of Tolerance of Ambiguity and Tolerance of Negative Emotions on the Direct Relationships between Attitudes towards the Advertisement and Help-seeking Behavioural Intentions

This research explored the moderating effects of a-priori individual consumer characteristics previously entrenched in applied, social, or clinical psychology domains, but underexplored in the social marketing advertising domain. In particular, distress tolerance for negative emotions (TNE) (Simons and Gaher, 2005) and tolerance of ambiguity (TA) (Leyro et al., 2011, Zvolensky et al., 2010) were investigated for potential moderating effect on consumers' SMIP/DP and AT (i.e., TNE), and AT and BI (i.e., TA). Contrary to the hypothesis (H₇) of this study, tolerance of negative emotions (TNE) tested amongst respondents who experienced fear after ad exposure did not yield a significant TNE x SMIP/DP interaction.

As discussed in chapter seven, the mild fear appeal designed for the current study may have mitigated the potential moderating effect of TNE, as the level of fear may have been considered 'tolerable' by at-risk gamblers.

This research has contributed to understanding how certain consumers with low or high tolerance of ambiguity evaluate mixed emotional appeals (fear mixed with challenge) and predicted the consequences on help-seeking behavioural intentions among at-risk gamblers. In particular, this study adds to the current understanding that tolerance of ambiguity (TA) significantly and negatively interacts with attitude towards the advertisement (AT) and tends to reduce the strength of the direct and positive relationship between AT and help-seeking intentions (BI). In other words, consumers with low tolerance of ambiguity exposed to mixed emotional appeals (i.e., fear mixed with challenge) would have less likelihood of seeking help. This empirical evidence reflects findings from clinical psychology (Daughters et al., 2005a, Daughters et al., 2005b), which stipulate that distress tolerance predicts early treatment dropouts in substance abuse respondents and problem gamblers. Applied to the social marketing domain, this study's empirical results generally confirm that TA is related to behavioural rigidity in accordance with the clinical psychology literature (Leyro et al., 2010), as the direct relationship between AT and BI weakened based on significant and negative interaction between AT x TA.

8.2.3.5. The Moderating Impact of Involvement with the Advertisement, Response Efficacy, and Self-Accountability on the Relationship between Systematic Mode and Depth of Information Processing and Attitude towards the Advertisement

The current research addressed contradicting empirical evidence of the moderating role of involvement with the advertisement (INV) and its impact on the systematic mode or depth of information processing in emotional appeals, such as fear appeals. Past research produced conflicting evidence, revealing that respondents highly involved with the advertisement tend to process the threatening message heuristically (Liberman and Chaiken 1992) or, on the contrary, in depth (Munoz et al., 2010). This study extended earlier findings in the gambling context focused on fear appeals (Munoz et al., 2010) by examining the significance of INV x SMIP/DP interaction and its impact on attitude towards the advertisement across fear, challenge and fear mixed with challenge appeals.

Consistently, and across all emotional appeals investigated in the current research, INV significantly and positively interacted with SMIP/DP and strengthened the direct relationship between SMIP/DP and AT as predicted. Furthermore, INV x SMIP/DP remained the only significant and positive interaction when concurrently modelled with response efficacy (RE x SMIP/DP), and self-accountability, (SA x SMIP/DP), in the LMS model four (N=455). The current research shows that, in the gambling context, INV with the advertisement construct is an important individual consumer characteristic difference in which respondents with higher scores in INV tend to have stronger impact on AT exerted by the INV x SMIP/DP interaction. In other words, regardless of evoked emotions, respondents high in involvement with the advertisement tend to process the emotionally charged information following the systematic mode. In the gambling context, highly involved with the message consumers tend to have stronger and more positive attitudes towards the advertisement, in comparison to respondents with low scores in involvement with the advertisement, as they process emotional advertisement in depth, following the systematic mode of information processing.

Past research has revealed that response efficacy was partially mediating the impact of fear on depth of information processing in problem gamblers exposed to fear appeals (Munoz et al., 2010). This study adds to extant knowledge by exploring response efficacy as a potential moderator, strengthening the direct and positive relationship between systematic mode and depth of information processing and attitude towards the advertisement. Likewise, the self-accountability interaction with SMIP/DP was predicted to also produce significant results. Empirical evidence within the current study confirmed that when modelled alone, self-accountability and response efficacy significantly and positively interact with systematic mode and depth of information processing, strengthening SMIP/DP → AT relationship. However, these results should be interpreted with caution, as both moderators yielded non-significant interactions with SMIP/DP when modelled concurrently with INV. Hence, this study found only partial support for moderating impacts of RE x SMIP/DP and SA x SMIP/DP interactions and their capacities to strengthen SMIP/DP → AT relationship. Nevertheless, respondents exhibiting high scores in self-accountability and response efficacy tend to have stronger and positive attitudes towards emotional advertisement in problem gambling context which prompts consumers to seek professional help, as irrespective of elicited emotions, these respondents processed message in depth and systematically.

8.3. Practical Contributions and Implications for Social Marketing Practitioners in the Context of Gambling

Individuals in Australia experience considerable exposure to commercial gambling advertising (McMullan et al., 2012, McMullan and Miller, 2009, Dyal, Tse and Kingi, 2009). Recent research advocates that the use of emotional advertising in social marketing contexts (Royne and Levy, 2015) should be utilised to counteract promotions of harmful activities, such as gambling (Livingstone and Adams, 2011). A recent study by Gainsbury, Hing and Suhonen (2014) found few problem gamblers seek professional help, suggesting low awareness of professional help services. To address this gap, this research was the first to explore the potential benefits of fear, challenge, and fear mixed with challenge appeals on help-seeking intentions among at-risk gamblers and offers practical findings for social marketers and public health professionals working in the gambling context, including message elements incorporated into advertising appeals to elicit a specific emotional response from at-risk gamblers.

This study provides practical insights regarding the message elements incorporated into advertising appeals to elicit a specific emotional response from at-risk gamblers. Graphically, this study offers practitioners an example of fear appeal designed for both genders, as described in chapters 3 and 4. For instance, portraying a person in a destitute state visually depicted the harms associated with problem gambling and gambling harms were communicated in the advertising stimulus by the following text: “Gambling strips away your money, your self-control, your friends, your family and your pride until there is nothing left to lose”. Empirically, the study confirmed that the loss of personal control over excessive gambling translated to fearful emotional responses, when an advertisement depicted the theme of ‘feeling trapped, stuck, and desperate’. Threats, such as isolation, self-esteem, and identity loss, and significant financial debt were also perceived as relevant and fear inducing. This finding is important for practitioners as it confirms the relationship between perceived susceptibility and fear in the gambling context consistent with the revised protection motivation model (RPMM) (Arthur and Quester, 2004). In other words, by depicting *relevant* threat in the gambling context, advertising stimuli assessment results in fear elicitation, as cognitive appraisals of meaningful harms predict to evoke negative emotion (i.e., feeling scared, afraid).

Study findings suggest that advertising messages intended for enduring behavioral change, such as seeking specialised help to quit gambling, should be linked to personally and socially positive consequences, positive expectations of mastery achievement, and problem confrontation. Importantly, this study showed that challenge advertising executions need to be perceived as optimistic, yet effortful, demanding and, to some extent, stressful in order to comply with a challenge appraisal in the gambling context. Encouragement to battle a problem issue, such as excessive gambling, by means of specialised help-seeking resulted in positive affect associated with challenge in accordance with Lazarus (1991). For example, depicting the ‘fighting’ attributes of challenge in the advertising appeal (i.e., ‘Set Yourself Free from gambling! You can still beat it!’) evoked positive emotions associated with challenge (i.e., hopeful, inspired, eager, and determined). ‘Setting yourself free from gambling’ was perceived to catalyse rewarding and intrinsically motivating opportunities for help-seeking and described a way to ‘come back to life’, ‘change lifestyle with the exploration of positive dimensions in life’, ‘find new identity’, ‘acquire self-worth and self-esteem’ and “get a second chance in life to be lived with honesty and integrity’.

Overall, this study found qualitative (focus groups) and quantitative (pilot-test two) support for the notion that appraisal of relevant potential perceived benefits of help-seeking leads to positive affect accumulation and evokes emotions associated with challenge (i.e., hopeful, enthusiastic, determined) in the problem gambling context; as stipulated by the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980). This finding is novel for social marketing appeals since, previously, the CPHTE framework was mostly applied in contexts of stressful achievements and events (Skinner and Brewer, 2002), including examinations (Folkman and Lazarus, 1985, Karademas and Kalantzi-Azizi, 2004), sport competitions (Skinner and Brewer, 2004), or complex cognitive tasks (i.e., making predictions concerning the value of company stocks) (Drach-Zahavy and Erez, 2002).

Findings from the focus groups and pilot studies indicated that evaluations of potential harm of excessive gambling and anticipatory benefits arising from quitting gambling and help-seeking creates ambiguity, which is an essential condition for mixed emotion elicitation, in accordance with the Cognitive Phenomenological Theory of Emotions (CPHTE) (Lazarus et al., 1980, Folkman and Lazarus, 1985).

Social marketing practitioners can benefit from the practical experience of this research in depicting ambiguity associated with fear mixed with challenge. In particular, text embedded in the visual stimuli, such as ‘You may be trapped forever’, evoked a fearful response from participants and ‘Set Yourself Free from gambling, you can still beat it’ was considered a challenging opportunity and elicited positive emotions, which accompany challenge.

An additional finding relevant to practitioners is that, due to the compulsive nature of gambling, consumers should be connected with available professional help in the message, highlighting the importance of response efficacy. Furthermore, personalised messages, such as ‘I am getting out of gambling. It’s OK to ask how’, enhance self-accountability for, and normalisation of, help-seeking behaviour in the gambling context. Furthermore, Jardin, and Wulfert (2012) claimed that the use of messages in altering risky gambling behaviour in experienced gamblers can be an effective part of harm minimisation in the problem gambling context. The authors suggest that harm minimization strategies that help individuals maintain a rational perspective while gambling may protect them from unreasonable risk-taking. We extend the findings of Jardin, and Wulfert (2012), since our research suggests that fear mixed with challenge appeals positively impact on the strength of risk-related evaluations, risk related attitudes, and consequently on risk-related decisions and intentions and hence may be used as a part of professional therapy in gambling afflicted consumers to positively influence various stages of change (contemplation, preparation, or action or maintenance stage of change as per Prochaska and DiClemente’s , 1992).

Additionally, this research indicates that advertising stimuli should exclude explicit gambling cues, such as images of dice or slot machines screens, as these may trigger afflicted audiences to gamble. This notion parallels findings examining anti-smoking advertising where pictures of people smoking or conditioned smoking stimuli are appetitive, pleasurable, and increased the desire to smoke a cigarette in smokers (Winkler, Weyers, Mucha, Stippekoehl, Stark and Pauli, 2011).

Next, the limitations of this research are discussed, covering a range of boundaries within which the results of this study should be interpreted.

8.4. Limitations of the Study

8.4.1. Research Design and Validity Issues

This research has several limitations that highlight opportunities for future research. One major limitation of the qualitative component of this research was the convenience sampling approach used for recruitment of gambling participants, where at-risk gamblers recruited for focus groups were attending professional psychological help through the gambling support centre. The problem gambler participants, having already had some treatment, likely would have been at the action or maintenance stage of change as per Prochaska and DiClemente's stages of change (Prochaska, DiClemente and Norcross, 1992) as compared to gamblers that emotional appeals would strive to target: presumably people at the contemplation, preparation, or action stage.

In order to obtain views from those who had not sought problem gambling treatment, the internet provides numerous opportunities for conducting qualitative and quantitative assessments among at-risk gamblers (Griffiths, 2010, Griffiths and Barnes, 2008, McKinley and Wright, 2012).

Moreover, the representativeness of the sample was limited in respect to race, as the majority of focus group participants were Caucasian. Additionally, although a part of every focus group was dedicated to triangulate respondents answers, the audience may have been inadvertently cued by researchers to provide socially acceptable or desirable responses (Neuman, 2011).

Several limitations are also evident in the quantitative component of this research. The quasi-experiment lacked a pre-test design. Prior measurement of help-seeking behavioural intentions was avoided due to the potential priming effect on at-risk respondents that could have potentially resulted in the viewer perceiving emotional advertising differently. Despite this, a prior measure is a necessary step in allowing causal inferences to be made. Hence, this research cannot make causal claims about the postulated relationship outlined in the model. As with all forms of regressions, only associations and correlations can be confirmed, and the order with which constructs affect one another are based on theoretical reasoning only. Nonetheless, the presence of statistically significant relationships between variables serves as an indicator of the potential influence of the used predictors.

As discussed previously, the objective of this research was to examine the effectiveness of mixed emotions appeals in comparison to fear or challenge. In particular, the focus was on identifying conditions under which message persuasiveness could not be undermined by the use of a mixed emotion. Hence, a positive emotion appeal (i.e., challenge) and negative emotional appeal (i.e., fear) served as the control for comparison purposes in this study. Even though the study complied with the randomisation requirement, as every respondent was randomly assigned and exposed to only one experimental condition (i.e., advertising stimulus), it produced an unequal proportion of respondents who felt fear mixed with challenge (N=228), fear (N=145), or challenge (N=80). According to Kline (2005), a sample size of less than 100 respondents, as in the challenge model, may be a cause for concern. As a result, the hypothesis addressing challenge appeals should be examined in future research on a larger sample of respondents.

The final outcome variable in the current study was help-seeking behavioural intentions, examined at a single point in time. Empirical evidence in the literature indicates that actual behaviour change and reported behavioural intentions do not necessarily correspond (Ruiter and Kok, 2005). Despite the fact that intentions have a stronger link to behaviour when the communication focuses on encouraging rather than discouraging behaviours (Floyd, Prentice-Dunn and Rogers, 2000), as identified in this research, a meta-analysis found a modest correlation between intention and actual behaviour in the context of condom use (Sheeran and Orbell, 2000). Future investigations should examine actual help-seeking behaviour after advertisement exposure, such as number of clicks on a web site linked to the gambling support centre advertised. Moreover, processing and responses to advertising appeals do not always occur immediately after exposure to advertisement intervention. This is referred to as the 'delayed effect' or 'sleeper effect' as many persuasive messages do not have an initial effect, but changes in behavioural intention or behaviours may take place after a period of time (Kumkale and Albarracín, 2004). In future research, it would be interesting to consider short and long-term behavioural effects of emotional advertisements used in this study. Since the data from a cross-sectional design, such as in this study, provide only a 'snapshot' of an ongoing dynamic process, future research should employ longitudinal design which may offer potential advantages over cross-sectional data (Kline, 2005).

Another possible limitation of the current study stems from the advertising stimuli used. Print stimuli are not an extremely effective medium for generating emotional responses. Future research should take advantage of other more dynamic forms of communication that can generate stronger emotional responses, such as in the case with televised advertising. Also, future research should explore different channels of communication in which mixed emotional appeals can be viewed in more naturalistic settings, such as social media and on-line forums, especially for younger respondents. Since adolescents and youth are substantial users of social media, the social marketing now has more opportunities to reach this population (Vyas, Landry, Schneider, Rojas and Wood, 2012). Additionally, online social networking sites offer a novel setting for the delivery of health promotion interventions due to their potential to reach a large population and the possibility for two-way engagement with the younger audience (Gold, Pedrana, Stoope, Chang, Howard, Asselin, Batrouney, Hellard and Ilic, 2012, Cugelman, Thelwall and Dawes, 2011).

Finally, there are limits to generalisability of the results, as this research focused on the single context of gambling. Future investigators should explore direct/indirect impacts of fear mixed with challenge on help-seeking behavioural intentions in different social marketing contexts including, but not limited to, smoking, drink driving, obesity, or internet addiction.

8.4.2. Measures

The self-report measure, that is on-line questionnaire, may also affect the results due to the general tendency for individuals to provide socially desirable answers in virtually all types of self-reported measures, which is known to bias results (Neuman, 2011). Despite the fact that participant anonymity was assured in order to induce honest responses, it is possible that some under-reporting occurred on the Canadian Problem Gambling Test (CPGT), due to the negative stigma attached to the problem gambling status, which may bias gambling status evaluations.

Self-reported evaluations of experienced emotions can also be inaccurate. Future research should employ biometrical/physiological measures of evoked emotions during ad exposure through the use of eye tracking, electromyography, or electroencephalography.

These measures facilitate unbiased assessment of experienced emotions and their magnitude during ad exposure (Zurawicki, 2010, Ordoñana et al., 2009). Although positive and negative emotional reactions to mixed emotional appeals are measured and both co-occur, research is needed to provide a more direct measure of mixed emotional experience. Future research may use techniques established in the experimental social psychology domain to measure physiological markers of elicited challenge and fear, such as cardiovascular reactivity (Chalabaev, Major, Cury and Sarrazin, 2009), to complement self-reported measures of elicited emotions.

An additional limitation of the current research is the convergent validity of the three measurement instruments. Specifically, tolerance of negative emotions, response efficacy, and systematic mode and depth of information processing for the challenge appeal yielded average variance extracted values below acceptable thresholds of 50%, as recommended by (Hair et al., 2010). However, indicator variables for each problematic latent construct consistently produced t values above 2.00 and statistically significant p – values, hence were considered acceptable for further statistical tests (Hair et al., 2010). Moreover, the Cronbach alphas for these measures remained above 0.70, as recommended by Nunnally (1978).

Another concern of this research is ‘partial’ measurement invariance between fear, challenge, and fear mixed with challenge appeals. However, the basic factor structure across fear, challenge, and fear mixed with challenge appeals was confirmed, as metric versus configural, and scalar versus configural models did not yield significant differences. In accordance with Dimitrov (2010) and Byrne (1998), ‘partial’ invariance, or invariance in up to 20% of parameters, is considered permissible to proceed with hypothesis (i.e., H_{11}) testing. Moreover, the Kruskal Wallis test indicated significant mean differences in help-seeking behavioural intentions among respondents exposed to fear, challenge, and fear mixed with challenge appeals, similarly confirming hypothesis H_{11} .

Next, further directions for future research are discussed in more detail, focusing on critical population segments to be approached and relevant individual consumer characteristics to investigate for appropriate segmentation of challenge, and fear mixed with challenge appeals in the social marketing context.

Advanced statistical techniques to be employed by future investigators for better understanding of the impact of emotional appeals on help-seeking behaviours are proposed.

8.5. Directions for Future Research

8.5.1. Critical Population Segments in Social Marketing Advertising in the Gambling Context

Whilst this study suggests that the use of fear mixed with challenge appeals to induce help-seeking in gambling-afflicted individuals is effective, the conceptual model should be re-tested on a diverse and larger sample of at-risk respondents. In particular, such advertising executions should be tested with different cultural segments of at-risk gambling populations. For example, earlier studies of mixed emotions in advertising appeals pointed out that consumers with Asian ethnic background tend to accept and tolerate duality (Williams and Aaker, 2002).

Duality refers to the ongoing process of accepting and synthesising contradiction in elements or forms (i.e., mixed positive and negative emotions) (Basseches, 1980). From a public health and social marketing perspective, Asian gamblers are significantly more likely to have a gambling problem than their Caucasians counterparts, and are less able to access support and advice to help them (Forrest and Wardle, 2011, Fong, Fong and Li, 2011). Hence, future research should test the effectiveness of fear mixed with challenge appeals to boost help-seeking in the Asian population segment.

A recent article titled “Who gambles most?” (Economist, 2014) stipulates that, based on H2GC British consultancy estimations, a total of 18.4 billion US\$ was lost to gambling in 2013 in Australia, mostly through poker machine gambling. Furthermore, Southwell, Boreham and Laffan (2008) and Ariyabuddhiphongs (2012) reported that especially older Australians face numerous negative financial circumstances from problem gambling, given the greater likelihood of dependency on smaller, fixed incomes. Future investigators should test the effectiveness of fear mixed with challenge appeals on help-seeking behaviours among this specific target market, based on the existing empirical evidence, that elderly consumers, especially females (Orth, Malkewitz and Bee, 2010), respond to mixed emotional experience favourably (Micu and Chowdhury, 2010, Williams and Aaker, 2002)

Overall, widespread use of Internet for gambling contributes to be an increasing problem in gambling globally (Wardle, Griffiths, Orford, Moody and Volberg, 2012, Kairouz, Paradis and Nadeau, 2012) and Australia is no exception (Gainsbury et al., 2012, Gainsbury et al., 2014). Youth (King et al., 2010, Delfabbro, Lambos, King and Puglies, 2009) and Australian indigenous communities (McMillen and Donnelly, 2008) are also vulnerable to pathological gambling. Hence, future research should explore perceptions/opinions/attitudes of emotional advertising including fear mixed with challenge and challenge with other emotions, to raise awareness of and influence help-seeking behaviour for vulnerable population segments.

8.5.2. A-priori Individual Characteristics and Message Information Processing

It is also important that future research addresses whether individual differences impact on the effectiveness of communication strategies in the social marketing context.

For fear mixed with challenge and challenge appeals, future research should explore the moderating impact of challenge as a state, and challenge as a personality trait. Challenge exists on a continuum ranging from a momentary feeling (state challenge) to a more stable and consistent way of approaching a variety of experiences and situations (trait challenge) (Lazarus, 1991). This research investigated how challenge, as a state, affected information processing, and future research may investigate moderating properties of trait challenge on information processing modes and depth. Individuals who are relatively high in the trait challenge have a lower threshold for challenge elicitation, are more likely to experience challenge or challenge congruent emotions, and would experience feelings of challenge along with relevant appraisals, motivational tendencies, and behaviours more often, for longer periods, more intensely, and in more kinds of situations (Lazarus, 1991).

An interesting avenue for future research is to explore challenge-related traits, such as resilience (Tugade and Fredrickson, 2004) and grit (Duckworth, Peterson, Matthews, and Kelly, 2007), to reveal the intricate details of emotional advertising processing in respondents. Challenge, as a state level, might be the mechanism for grit, defined as perseverance and passion for long term goals (Duckworth, Peterson, Matthews and Kelly, 2007). Positive psychology literature (Kirby, Morrow and Yih, 2014) indicates that people

who are high on the resilience trait tend to view impeding stressors as challenges; hence, they experience challenge-related emotions which down regulate negative emotions (Tugade and Fredrickson, 2004).

Future research may also explore the dispositional threat and dispositional challenge appraisal styles, in order to predict how a particular individual appraises and responds emotionally in a particular context. Cognitive appraisal styles of threat and challenge refer to “dispositions to appraise ongoing relationships with the environment consistently in one way or another” (Lazarus, 1991, p. 138).

These dispositional styles represent the event’s personal significance in terms of values, well-being, and commitments (Lazarus, 1991). Threat and challenge appraisal styles are, respectively, associated with weak and strong event-specific coping expectancies, which, in turn, predict negative and positive emotion.

Dispositional challenge appraisals, which tend to predict situation-specific challenge appraisals and emotions (Smith and Kirby, 2011), were found to be positively correlated with task-directed behaviours and cognitions including attentional deployment, task engagement, effort, and task relevant cognitions (Matthews and Campbell, 2009). Dispositional threat appraisals reflect on the tendency to focus on possible harm to one’s self-esteem and social identity posed by disapproval and negative evaluation of others, in addition to low self-confidence in one’s ability to cope with stressful or demanding situations (Lazarus, 1991). Hence, dispositional threat or dispositional challenge appraisal styles may reveal moderating properties to impact on the effectiveness of communication strategies in the social marketing context among different segments of a targeted population.

8.5.3. Advanced Methods of Data Analysis

Traditional SEM statistical methods, as used in the current study, generally deal with a single unit of analysis only. Multilevel structural equation modelling (MLSEM), on the other hand, allows for the exploration of the proposed main effects across different hierarchical levels. Most examples of MLSEM analysis in the literature are two-level models, where level one concerns case variables (individual or ‘within’) and level two

concerns group variables (contextual or ‘between’). For example, cross-cultural differences in responses exposed to fear mixed with challenge and its indirect impact on help-seeking intentions can be evaluated with meta-analytic structural equation modelling assessing message information processes of consumers from different cross-cultural backgrounds (Cheung, Leung and Au, 2006). MLSEM performs well in 2-level models in terms of bias and confidence interval coverage, while displaying adequate efficiency, convergence rates, and power, and is recommended to be used in multilevel mediational analysis (Preacher, Zhang and Zyphur, 2011).

8.6. Summary and Concluding Comments

This chapter provided an overview of the key findings of the current study. Theoretical contributions and implications of the research for practitioners were presented. Discussion of various limitations outlined the boundaries of this research. Finally, directions for future research effort were highlighted.

This study has made a contribution to the marketing, consumer behaviour, and public health gambling literature regarding fear, challenge, and fear mixed with challenge appeals, by empirically testing a novel conceptual model that united three prominent theoretical models, including the revised protection motivation model of fear appeals (Arthur and Quester, 2004), the cognitive-phenomenological theory of emotions (Lazarus et al., 1980), and the heuristic systematic model (Eagly and Chaiken, 1993). The novel conceptual model facilitated greater understanding of the impact of various emotions on elaboration of message information processing, which proved to be germane for the formation of positive attitude towards the advertisement and help-seeking intentions in the gambling context. Importantly, the current study collected data from at-risk respondents, targeting those for whom help-seeking in the gambling context was relevant, which resulted in a data set customised for a specific population who actively and frequently engage in various gambling activities. A web-based survey with quasi experiment and different statistical techniques were used which resulted in important methodological and empirical contributions to the field.

Across all emotional appeals tested in the current research, cognitive mediators, such as systematic mode and depth of information processing and attitude towards the

advertisement, explained the indirect impact of evoked emotions on help-seeking behavioural intentions. This research found support for the hypothesis that emotional advertising based on negative (mild fear), positive (feeling determined, hopeful, eager, and inspired), and mixed emotions (fear mixed with challenge) prompt a systematic mode and depth of message processing, positively impacting on attitudes and help-seeking intentions (BI). Heuristically proceeded messages, which involved the direct influence of emotions on help-seeking intentions, resulted in a non-significant impact.

The empirical findings of this research supported the hypothesis that fear mixed with challenge acted as a conditioning stimulus on systematic mode and depth of information processing and indirectly exerted the strongest impact on help-seeking intentions, compared with only fear or challenge appeals.

An effective social marketing strategy requires careful consideration of consumer individual difference characteristics before channelling various emotional appeals to different segments of a target population (Arthur and Quester, 2004, Terblanche-Smit and Terblanche, 2011, Coleman and Williams, 2013). Empirical results of the current research suggest that market segmentation should be effectively applied when using fear mixed with challenge in advertising since a-priori individual moderators, such as tolerance of ambiguity, weakened the relationship between attitude towards the advertisement and help-seeking behavioural intention in at-risk gamblers. In particular, this study adds to extant knowledge by showing that, for at-risk gambling respondents low on tolerance of ambiguity, emotional appeals such as fear mixed with challenge can be counterproductive in boosting help-seeking intentions. Additionally, the current study gives support to the notion that individual difference characteristics form unique information processing patterns in consumers and moderate relationships between systematic mode and depth of information processing (SMIP/DP), attitudes towards the advertisement (AT), and AT and BI. In particular, the results suggest that involvement with the advertisement strengthens the direct relationship between SMIP/DP and AT regardless of the felt emotion/s.

Future research should replicate the current study methods among different segments of at-risk populations in different social marketing contexts. Advanced statistical techniques, such as multilevel structural equation modelling, may reveal insightful details about cultural-specific appraisals of emotional appeals; those addressing social marketing efforts across different countries and diverse consumer's psychological profiles.

Appendices

Appendix 4.1A: Human Ethics Research Committee Approval for Exploratory and Confirmatory Studies



RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND
INTEGRITY

BEVERLEY DOBBS
EXECUTIVE OFFICER
LOW RISK HUMAN RESEARCH ETHICS REVIEW
GROUP (FACULTY OF HUMANITIES AND SOCIAL
SCIENCES AND FACULTY OF THE PROFESSIONS)
THE UNIVERSITY OF ADELAIDE
SA 5005
AUSTRALIA
TELEPHONE +61 8 8313 4725
FACSIMILE +61 8 8313 7325
email: beverley.dobbs@adelaide.edu.au

7 August 2013

Dr R Veale
School: Business

Dear Dr Veale

ETHICS APPROVAL No: HP-2013-047
PROJECT TITLE: Investigating effective social marketing campaigns and gambling behavior

I write to advise that the Low Risk Human Research Ethics Review Group (Faculty of Humanities and Social Sciences and the Faculty of the Professions) has approved the above project. The ethics expiry date for this project is **31 July 2016**.

Ethics approval is granted for three years subject to satisfactory annual progress and completion reporting. The form titled *Project Status Report* is to be used when reporting annual progress and project completion and can be downloaded at <http://www.adelaide.edu.au/ethics/human/guidelines/reporting>. On expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the Information Sheet and the signed Consent Form to retain. It is also a condition of approval that you **immediately report** anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol; and
- the project is discontinued before the expected date of completion.

Please refer to the following ethics approval document for any additional conditions that may apply to this project.

Yours sincerely

ASSOCIATE PROFESSOR PAUL BABIE
Convenor
Low Risk Human Research Ethics Review Group (Faculty of
Humanities and Social Sciences and Faculty of the Professions)

Appendix 4.1A: Human Ethics Research Committee Approval for Exploratory and Confirmatory Studies (continued)



RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND
INTEGRITY

BEVERLEY DOBBS
EXECUTIVE OFFICER
LOW RISK HUMAN RESEARCH ETHICS REVIEW
GROUP (FACULTY OF HUMANITIES AND SOCIAL
SCIENCES AND FACULTY OF THE PROFESSIONS)
THE UNIVERSITY OF ADELAIDE
SA 5005
AUSTRALIA
TELEPHONE +61 8 8313 4725
FACSIMILE +61 8 8313 7325
email: beverley.dobbs@adelaide.edu.au

Applicant: Dr R Veale
School: Business
Project Title: Investigating effective social marketing
campaigns and gambling behavior

Low Risk Human Research Ethics Review Group (Faculty of Humanities and Social Sciences and the Faculty of the Professions)

ETHICS APPROVAL No: HP-2013-047 **RM No:** 0000016606

APPROVED for the period: 16 July 2013 to 31 July 2016

Thank you for the response and revised ethics application dated 12.7.13. It is noted that this study is to be conducted by Svetlana de Vos, PhD Candidate.

ASSOCIATE PROFESSOR PAUL BABIE
Convenor
Low Risk Human Research Ethics Review Group (Faculty of
Humanities and Social Sciences and Faculty of the Professions)

Appendix 4.1B: Human Ethics Research Committee Approval Adjusted for Confirmatory Study



RESEARCH BRANCH
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND
INTEGRITY

AMY WECKERT
HUMAN RESEARCH ETHICS OFFICER
OFFICE OF RESEARCH ETHICS, COMPLIANCE AND
INTEGRITY
THE UNIVERSITY OF ADELAIDE
SA 5005
AUSTRALIA
TELEPHONE +61 8 8313 4725
FACSIMILE +61 8 8313 7325
email: hrecr@adelaide.edu.au
CRICOS Provider Number 00123M

20 November 2014

Dr R Crouch
School of Business

Dear Dr Crouch

APPROVAL NO: HP-2013-047
Investigating effective social marketing campaigns and gambling behaviour

Thank you for the emails dated 4 and 18 November 2014 from Svetlana de Vos requesting an amendment to the above project. I write to advise you that on behalf of the Human Research Ethics Committee I have approved the request to amend the survey detailed in the emails and attachments.

The ethical endorsement for the project applies for the period until: 31 July 2016.

Where possible, participants taking part in the study should be given a copy of the Information Sheet and the signed Consent Form to retain.

Please note that any changes to the project which might affect its continued ethical acceptability will invalidate the project's approval. In such cases an amended protocol must be submitted to the Committee for further approval. It is a condition of approval that you immediately report anything which might warrant review of ethical approval including (a) serious or unexpected adverse effects on participants (b) proposed changes in the protocol; and (c) unforeseen events that might affect continued ethical acceptability of the project. It is also a condition of approval that you inform the Committee, giving reasons, if the project is discontinued before the expected date of completion.

A reporting form is available from the Committee's website. This may be used to report on project status including completion.

Yours sincerely

Dr John Semmler
Convenor
Human Research Ethics Committee

Appendix 4.1.C: Human Ethics Approval for Focus Group Discussions with at-risk Gamblers

Relationships Australia
SOUTH AUSTRALIA

25/2/14

Svetlana de Vos
10 Pulteney St, Nexus Building, Level 9
Adelaide, South Australia, 5050

Dear Svetlana,

RE: Ethics Application

Project Title: Investigating effective social marketing campaigns and gambling behaviour

Reference number: EA0014

Thank you for submitting a Research Ethics Self-Assessment Form for consideration of ethics approval. Your proposal has been considered by Relationships Australia South Australia's Research Ethics Committee.

I am pleased to advise that your proposal has been granted ethics approval on 25/2/14. Please regard this letter as formal notification of approval.

As per the conditions of your approval, all aspects of your research must be conducted in accordance with National Health and Medical Research Council (NHMRC) guidelines.

Any amendments to your proposed project as currently outlined in the Self-Assessment Form must be provided in writing to the Executive Officer of Relationships Australia South Australia's Research Ethics Committee. You must also notify the Committee immediately in the event of any adverse effects on participants or of any unforeseen events that might affect continued ethical acceptability of the project.

Best wishes for your research,

Dr Rebecca Feo
Executive Officer of Research Ethics Review Committee
Relationships Australia South Australia
t: 8216 5239 | f: 08 8359 3599 | e: r.feo@rasa.org.au



Diversity • Respect • Belonging • Learning

Address First Floor, 191 Flinders Street | Ph 08 8216 5200 | Web www.rasa.org.au
Adelaide, South Australia 5000 | Fax 08 8359 3599 | www.socialrelations.edu.au

Relationships Australia (SA) Inc ABN 31 274 929 883 | Relationships Australia South Australia Health Promotion Services ABN 19 119 188 500

Appendix 4.2.A: Consent Form for Focus Group Participants

Human Research Ethics Committee (HREC)

CONSENT FORM

1. I have read the attached Information Sheet and agree to take part in the following research project:

Title:	“Investigating effective social marketing campaigns and gambling behavior.”
Ethics Approval Number:	HP-2013-047
2. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.
3. **Although I understand the purpose of the research project it has also been explained that involvement may not be of any benefit to me.**
4. I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.
5. I understand that I am free to withdraw from the project at any time.
6. I agree to the interview being audio/ recorded. Yes No
7. I am aware that I should keep a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant to complete:

Name: _____ Signature: _____ Date: _____

Researcher/Witness to complete:

I have described the nature of the research to _____

(print name of participant)

and in my opinion she/he understood the explanation.

Signature: _____ Position: _____ Date: _____

Appendix 4.2.B: Information Sheet for Focus Group Participants



Focus Group Participant Information Sheet

Project Title: Investigating effective marketing campaigns and gambling behaviour

This research is being undertaken to gather consumer responses and opinions regarding the effectiveness of social marketing campaigns with a focus on social marketing gambling campaigns. We are researching how different appeals to emotions (negative, positive, or a combination of both) may influence the effectiveness of social marketing gambling campaigns and how different approaches to the ads are assessed and processed by individuals. We are interested in your opinions, attitudes, responses, feelings and emotions experienced after viewing the ads. Your participation will take about *one hour and thirty minutes*. You will view several ads resembling those in printed media (magazines, journals) with text and visuals (pictures). You will answer a self-administered questionnaire and will be engaged in a discussion. We will ask you to communicate your initial reaction, perceptions, opinions, thoughts and attitudes towards the advertisements.

The focus group session will be audio-taped and direct quotes might be used in the research publications (articles, conferences) with pseudonyms assigned instead of your name. This information will only be assessed by the researcher, her supervisors and a research assistant during data transcription. The transcribed data and the tapes will be securely stored within the premises of the University of Adelaide and placed in secure storage in the records deposit at the University of Adelaide's Business School. All electronic copies of the database will be disposed of following the 5 year storage period. Remember that no personally identifiable information will be collected.

There is no risk for you, participation is entirely voluntary, and your personal details will not be recorded. You can withdraw from the discussion at any moment and your comments will be omitted from the records if you decide not to disclose them by the end of the focus group discussion. In the unlikely event of emotional discomfort you will be advised and referred to the professional psychological help through the specialized clinics such as Relationships Australia. Any request for assistance could be referred to clinical psychologists in the School of Psychology with the assistance of Dr. Paul Delfabbro (paul.delfabbro@adelaide.edu.au). Alternatively, a list of free and confidential gambling help lines (24 hour/ 7 days a week access/ free) will be provided for those in needs.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see <http://nhmrc.gov.au/publications/synopses/e72syn.htm>). For further information about the research and outcomes this research please contact PhD candidate Svetlana de Vos at the University of Adelaide (08) 831 31 722 svetlana.devos@adelaide.edu.au or Dr. Roberta Veale roberta.veale@adelaide.edu.au (08) 831 36892; or Dr. Jasmina Ilicic jasmina.ilicic@adelaide.edu.au (08) 831 30244; or Dr. Pascale Quester pascale.quester@adelaide.edu.au. Should you have any concerns about this focus group or any information you have been given in relation to it, you can contact the Human Research Ethic Committee's Secretariat on phone (08) 83136028, by e-mail to hrec@adelaide.edu.au.

Appendix 4.2.C: Independent Complaints Form for Focus Group Participants

The University of Adelaide Human Research Ethics Committee (HREC)

This document is for people who are participants in a research project.

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

Project Title: "Investigating effective social marketing campaigns and gambling behavior."
Approval Number: HP-2013-047

The Human Research Ethics Committee monitors all the research projects which it has approved. The committee considers it important that people participating in approved projects have an independent and confidential reporting mechanism which they can use if they have any worries or complaints about that research.

This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see <http://www.nhmrc.gov.au/publications/synopses/e72syn.htm>)

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

Name: Dr. Roberta Veale
Phone: (08) 831 36892
Name: Svetlana de Vos
Phone: (08) 83131722

2. If you wish to discuss with an independent person matters related to:

- making a complaint, or
- raising concerns on the conduct of the project, or
- the University policy on research involving human participants, or
- your rights as a participant, contact the Human Research Ethics Committee's Secretariat on phone (08) 83136028, or by email to hrec@adelaide.edu.au

Appendix 4.3: Qualitative Discussion Guide (Focus Groups)

1. Introduction and warm-up (10 minutes)

- ✓ Moderator introduces herself and explains the purpose of the discussion. “We need your opinion about advertisements, please focus on the overall idea and impact of the presented ads.
- ✓ Welcome participants for giving their time.
- ✓ Introduce the participants to the concept of qualitative research and emphasise the need for information sharing and group participation.
- ✓ Consent forms. Distribute copies to each participant.
- ✓ Read through orally to ensure information is explicit.
- ✓ Sign willing participants, dismiss those unwilling.

2. Spontaneous associations (20 min)

- ✓ I want you to tell me everything that comes to mind when you see this word. Write the word “Gambling” on the flipchart and conduct a mind-map exercise including first, second, and third level associations.
- ✓ Whilst conducting the mind- mapping exercise explore the following:
 - Specific feelings regarding the gambling and the perceptions of how it affects them, their world, and the country: Does gambling worry you? Do you see it as a problem? Does it affect your life in any way? Does it affect your relationship?
 - How do you feel when you meet someone who you know has developed problem gambling? How would you attempt to change them?
- ✓ Have you been exposed to responsible gambling education? How often you are generally exposed to responsible gambling messages? When, where and in what format? How did you feel about that? How effective do you think it has been?
- ✓ What do you think people like yourself would be most receptive to responsible gambling education? Why?
- ✓ What do you think is the best way to go about telling people of the dangers associated with problem gambling?
- ✓ Do you think one should use basic information (statistics) or emotions to make people aware (read) and listen announcements?

Appendix 4.3: Qualitative Discussion Guide (Continued)

3. Reactions to print advertisements (60 min)

Show the different print concepts to the participants. Rotate order in the group Start discussion. Discuss each advertisement regarding the following:

- ✓ What first comes to mind when you think of these advertisements?
Express your spontaneous thoughts, feelings, moods evoked.
- ✓ Did this advertisement draw you in? In what way?
- ✓ What do you think is the main message of this ad? What other messages are there?
- ✓ Discuss the different elements that made it enjoyable or the elements that detracted from their ability to enjoy this message. Explore the call to action:
 - Do the ads make you think about your own gambling? Do they change your attitudes toward gambling in general? Do they encourage you seek help? If no action: explore the tuning out and what created tuning out?
 - Did you like this ad? Was there anything that you disliked about this ad? What? Why?
- ✓ Explore the specific elements of the advertisement that could motivate them or people like themselves
 - Explore the level of **self - relevance**- is this advertisement talking to you- or can you see yourself in this scenario? Why? Why not?
 - Explore the specific elements of the ads that could motivate participants: After viewing/reading, these ads do you think that one should **feel scared or inspired/exited/enthusiastic or both** in order to be process the message and be motivated for change? Which of the ads you just seen elicit such emotions?
 - If you think that other relevant threats associated with gambling are not mentioned here, please describe them below. Briefly explain why do you think they are relevant?
 - If you have or ever had a problem with gambling, what would be the reasons/benefits that would drive you to quit?
 - Why do you think they are relevant? Briefly explain.
- ✓ Probe participants' reactions toward **self-accountability** as a part of message argumentation: Did you read message more carefully because it made you feel responsible for the actions you perform and choices you make?
- ✓ Probe participants' reaction toward **perceived response efficacy**: Did you read the message more carefully because it tells you how you can protect yourself or where you can seek help?

Appendix 4.3: Qualitative Discussion Guide (Continued)

- ✓ Probe for participants' reactions toward **perceived benefits** as a part of message argumentation: Did you read the message more carefully because it highlights the potential benefits as a result of quitting gambling?
- ✓ Explore the degree in which ads involves them. Did you feel that you were (or could be) part of the story?
- ✓ Do you think that other people like yourself would understand this ad and what it is trying to say? Why? Why not? How easy was this to grasp? Are there any specific elements in this idea that could be confusing? What would you change to make that ad to fit better with you?
- ✓ What do you think would make this ad noticeable? Do you think that this ad will have the ability to make you or other people like yourself feel different about problem gambling?
- ✓ Compare feelings before the group started with the feelings evoked by viewing/reading the ad (refer back to the Mind mapping exercise)

4. Debriefing stage

- ✓ Outline the purpose of the project.
- ✓ In the unlikely event of emotional discomfort participants will be advised and referred to the professional psychological help through the specialized clinics such as Anglicare and Relationships Australia. Any request for additional psychological assistance could be referred to clinical psychologists in the School of Psychology (University of Adelaide) with the assistance of Dr. Paul Delfabbro. Alternatively, a list of free and confidential gambling help lines (24 hour/ 7 days a week access/ free) will be provided.
- ✓ Thank participants for the valuable information they contributed.

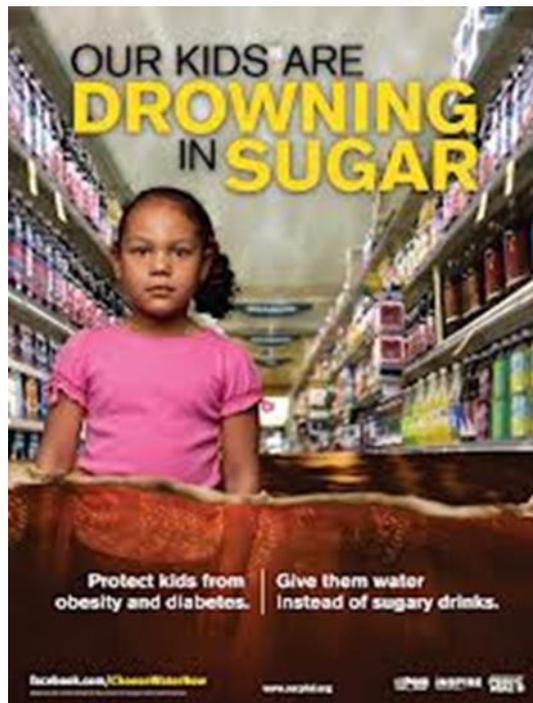
Appendix 4.4.A: Negative Emotional Appeals in Texting and Driving and Smoking Contexts (Focus Groups)



Appendix 4.4.A: Negative Emotional Appeals in Texting and Driving Contexts (Continued)



Appendix 4.4.A: Negative Emotional Appeals in Obesity Context (Continued)



Appendix 4.4.B: Positive Emotional Appeals in Smoking Context (Focus Groups)

Advertisement

STOP SMOKING START REPAIRING

In 1 week
your sense of taste and smell improves

In 3 months
your lung function has increased 30%

In 8 hours
excess carbon monoxide is out of your body

In 1 year
a pack-a-day smoker will save over \$4,000

In 5 years
your risk of a stroke has dramatically decreased

In 12 weeks
your lungs regain the ability to clean themselves

In 12 months
your risk of heart disease has halved

In 5 days
most nicotine is out of your body

EVERY CIGARETTE YOU DON'T SMOKE IS DOING YOU GOOD

Quitline 13 7848
australia.gov.au/quitnow

Australian Government
Australian National Preventive Health Agency

Authorised by the Australian Government, Capital Hill, Canberra
Printed by The Campaign Filmm Unit, 100 William Street, Melbourne VIC 3008, 2011

Advertisement

STOP SMOKING START REPAIRING

In 1 week
your sense of taste and smell improves

In 3 months
your lung function begins to improve

In 8 hours
excess carbon monoxide is out of your blood

In 1 year
a pack-a-day smoker will save over \$4,000

In 1 month
better blood flow is improving your skin

In 5 days
most nicotine is out of your body

In 12 months
your risk of heart disease has halved

In 9 months
your risk of pregnancy complications is the same as a non-smoker

EVERY CIGARETTE YOU DON'T SMOKE IS DOING YOU GOOD

Quitline 13 7848
australia.gov.au/quitnow

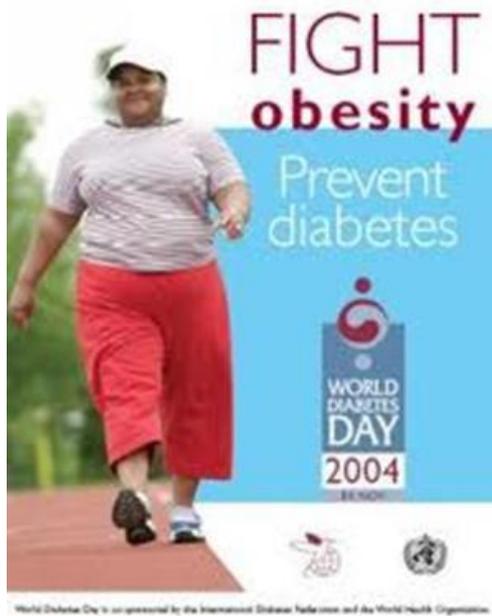
Australian Government

Authorised by the Australian Government, Capital Hill, Canberra
Printed by Designworks, Unit 1, Level 4, 100 William Street, Melbourne VIC 3008

Appendix 4.4.B: Positive Emotional Appeals in Smoking and Obesity Context
(Continued)

Quit Smoking – You Can Do It

321 654 987

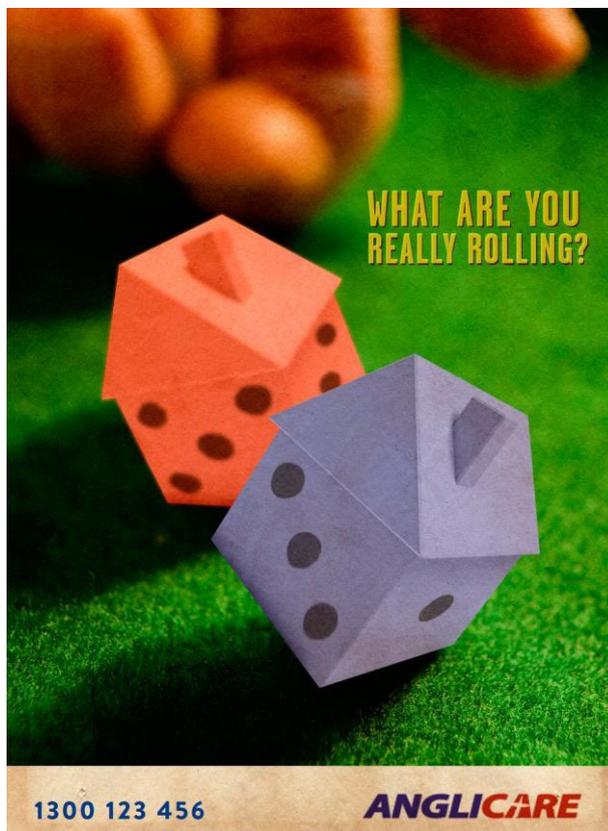


Appendix 4.4.C: Examples of Advertising Stimuli Designed for the Gambling Context (Focus Groups)



1300 123 456

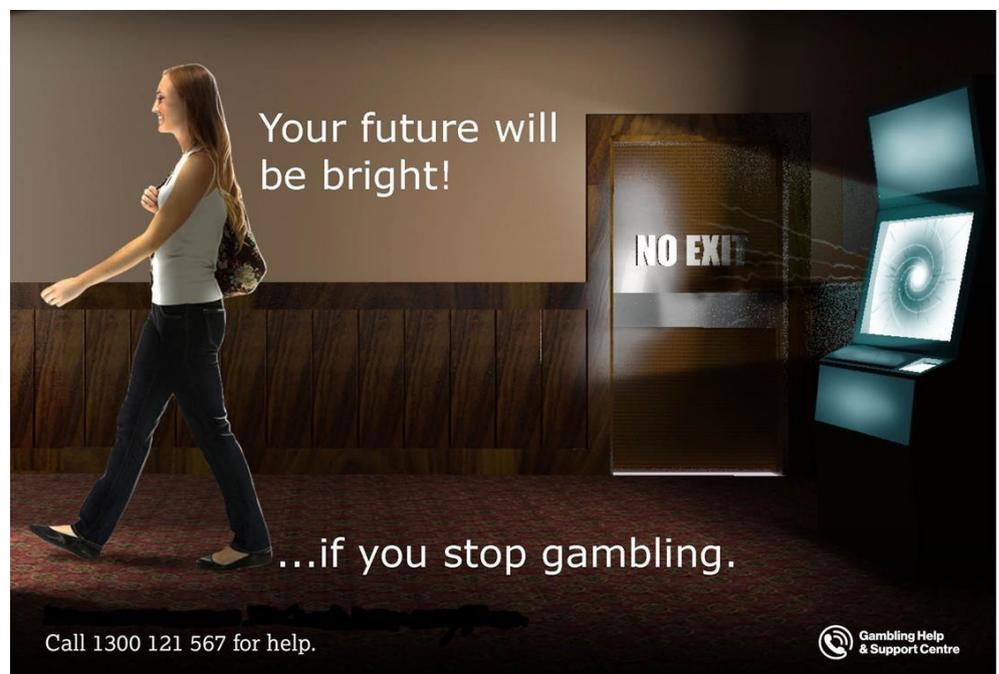
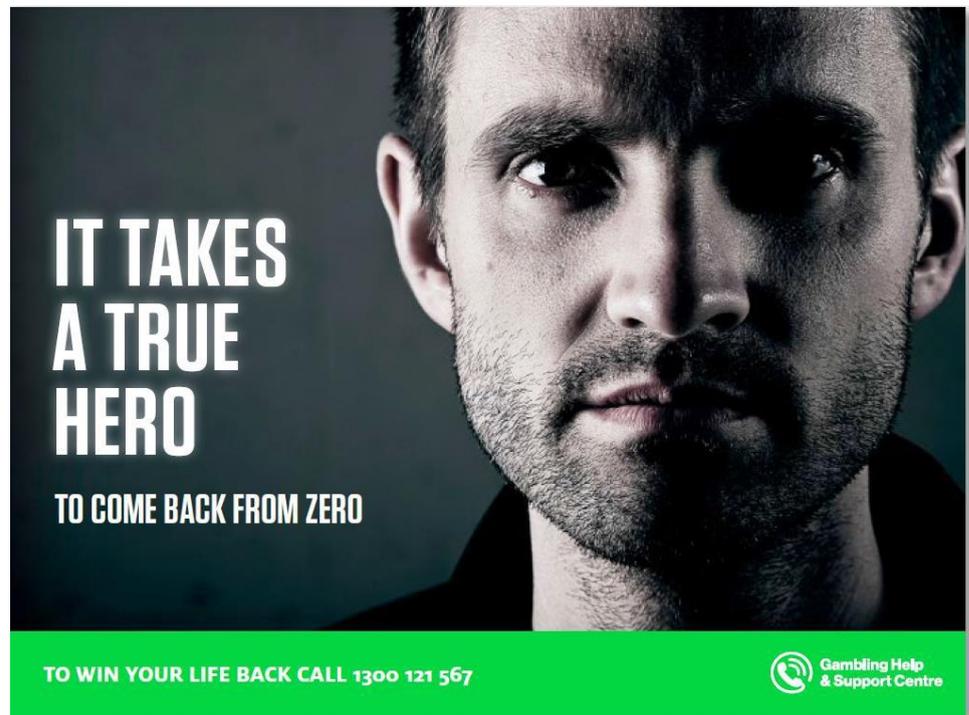
ANGLICARE



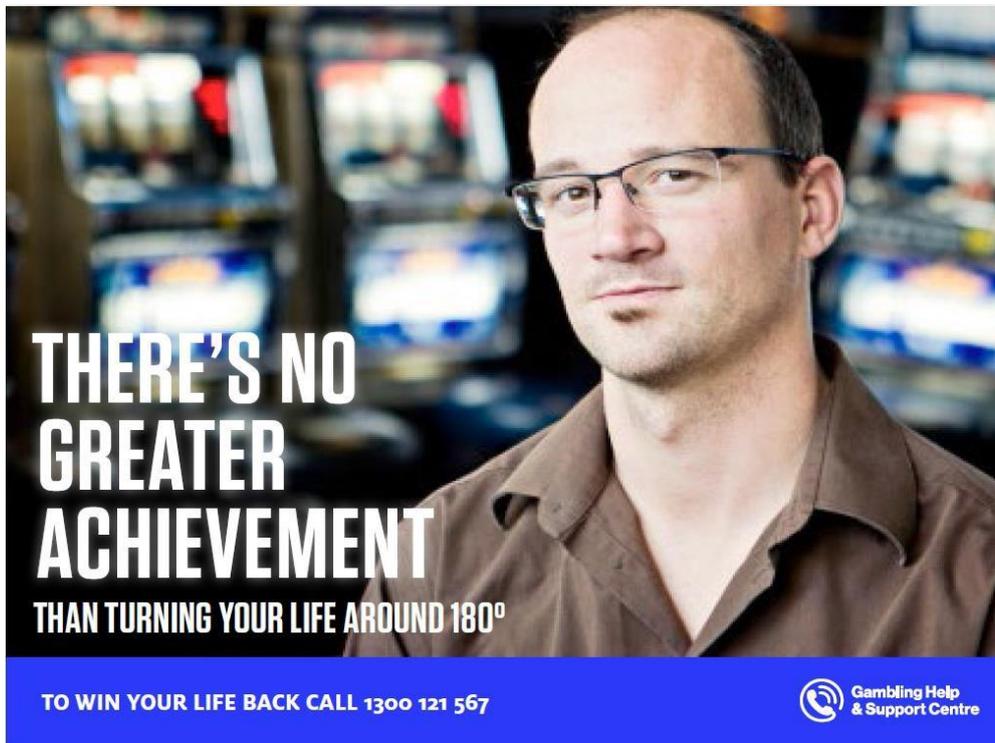
1300 123 456

ANGLICARE

Appendix 4.4.C: Examples of Advertising Stimuli Designed for the Gambling Context (Continued)



Appendix 4.4.C: Examples of Advertising Stimuli Designed for the Gambling Context (Continued)

A man with glasses and a brown shirt is shown in a casino setting with slot machines in the background. The text is overlaid on the left side of the image.

**THERE'S NO
GREATER
ACHIEVEMENT**
THAN TURNING YOUR LIFE AROUND 180°

TO WIN YOUR LIFE BACK CALL 1300 121 567

 Gambling Help
& Support Centre

A woman with long brown hair and blue eyes is smiling. She is wearing a red top. The text is overlaid on the left side of the image.

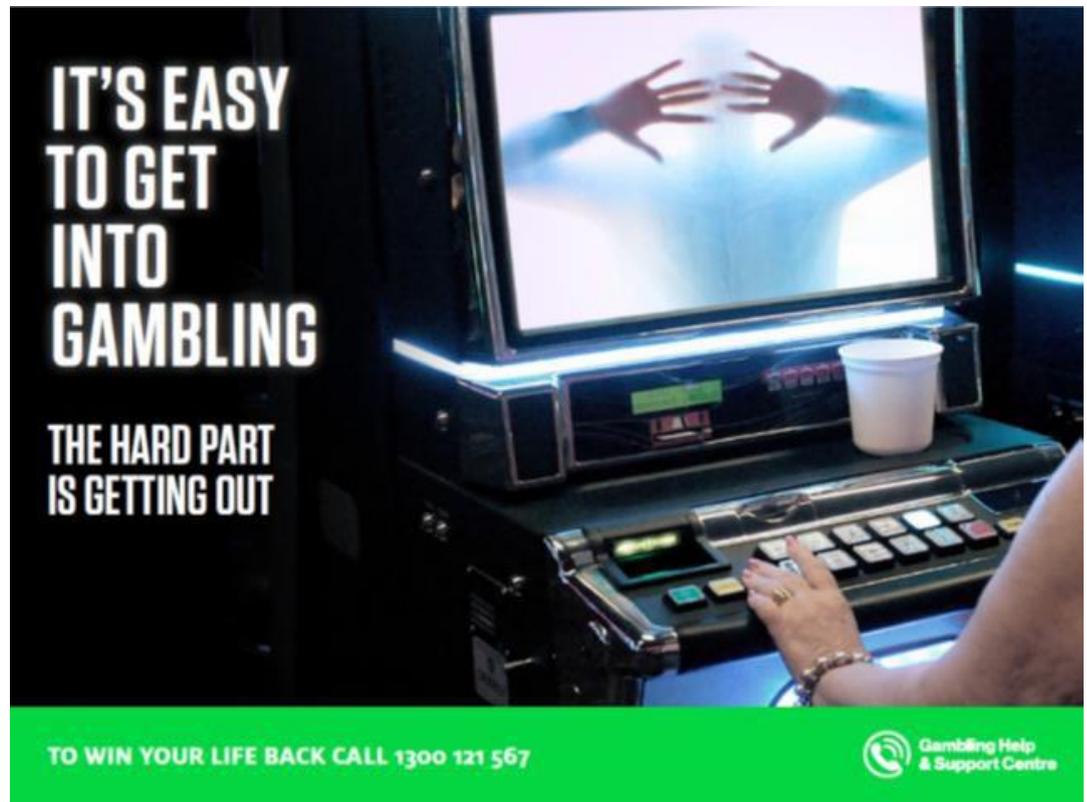
**GET YOURSELF
OUT OF
GAMBLING**

THEN YOU'LL KNOW WHAT
A WINNER FEELS LIKE

TO WIN YOUR LIFE BACK CALL 1300 121 567

 Gambling Help
& Support Centre

Appendix 4.4.C: Examples of Advertising Stimuli Designed for the Gambling Context (Continued)



IT'S EASY
TO GET
INTO
GAMBLING

THE HARD PART
IS GETTING OUT

TO WIN YOUR LIFE BACK CALL 1300 121 567

Gambling Help
& Support Centre

This advertisement features a close-up of a slot machine. A person's hand is visible at the bottom right, interacting with the machine's controls. The screen of the slot machine displays two hands reaching towards each other. The background is dark, with some blue and white light effects. The text is in a bold, white, sans-serif font. At the bottom, there is a green banner with white text and a logo for the Gambling Help & Support Centre.



Set yourself free from gambling! You can still beat it!

Gambling Help
& Support Centre
Call 1800 182 325

This advertisement shows a person's hands tied with thick, brown rope. The hands are raised in a fist-like gesture against a blue sky with white clouds. The background of the entire advertisement is a blurred, colorful scene of a casino floor with various slot machines and lights. At the bottom, there is a dark banner with white text and a logo for the Gambling Help & Support Centre.

Appendix 4.4.C: Examples of Advertising Stimuli Designed for the Gambling Context (Continued)



**KEEP
GAMBLING.**
ONE DAY YOU MIGHT
BE LOADED.

TO WIN YOUR LIFE BACK CALL 1300 121 567

 Gambling Help
& Support Centre



STILL GAMBLING?
UNLOAD ON US.

You can win your life back from gambling. Call 1300 121 567

 Gambling Help
& Support Centre

Appendix 4.5.A: Fear Appeal Designed for the Current Study (for Male Respondents)

**FIRST GAMBLING
STRIPS AWAY
YOUR MONEY.**

**THEN, YOUR
SELF-CONTROL.
YOUR FRIENDS.
YOUR FAMILY.
AND YOUR PRIDE.**

**UNTIL THERE IS
NOTHING LEFT TO LOSE.**

Call 1800 182 325

Gambling Help
& Support Centre

Appendix 4.5.B: Fear Appeal Designed for the Current Study (for Female Respondents)

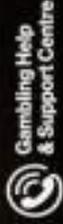
**FIRST GAMBLING
STRIPS AWAY
YOUR MONEY.

THEN, YOUR
SELF-CONTROL.
YOUR FRIENDS.
YOUR FAMILY.
AND YOUR PRIDE.

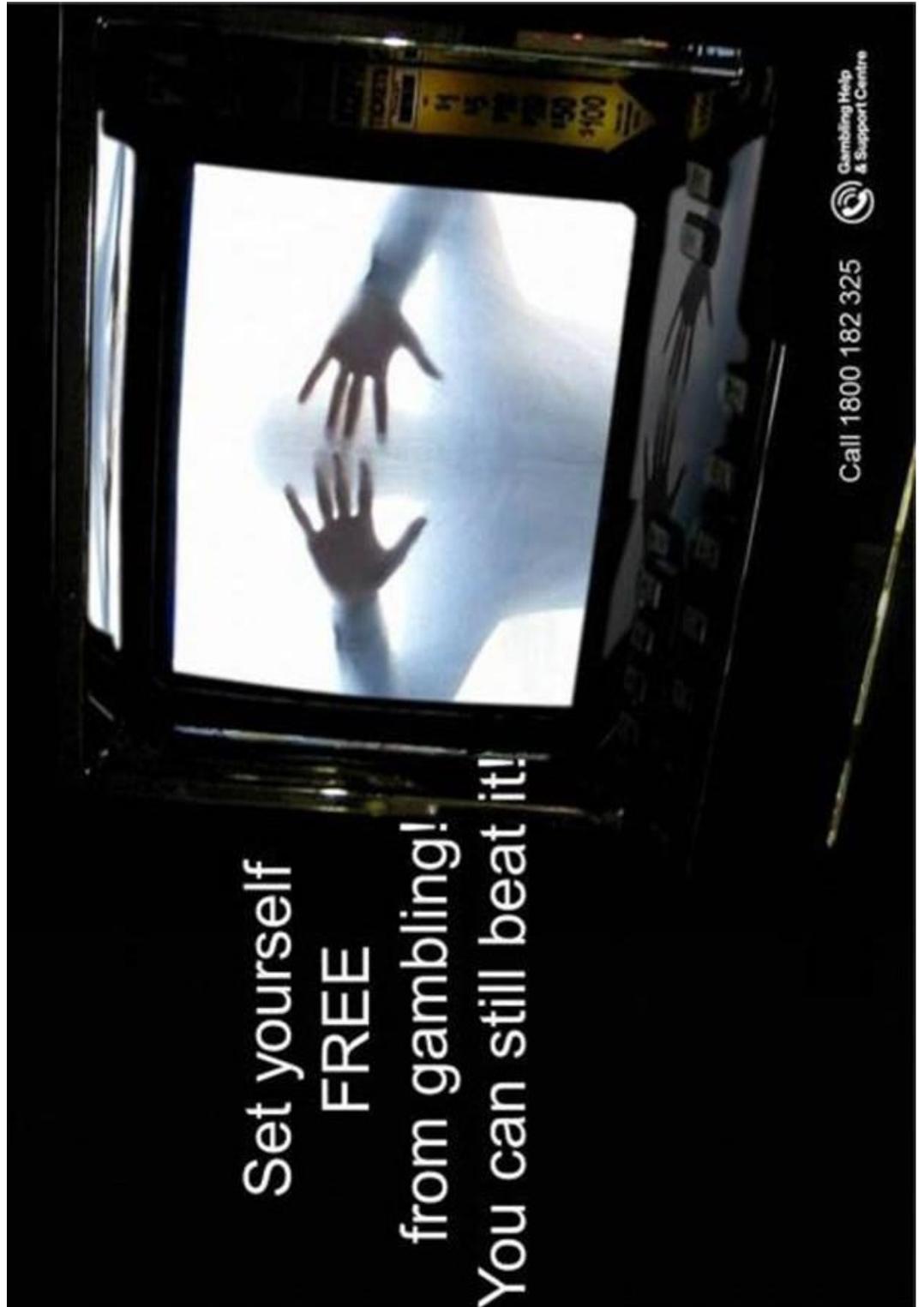
UNTIL THERE IS
NOTHING LEFT TO LOSE**



Call 1300 121 567



Appendix 4.5.C: Challenge Appeal Designed for the Current Study



Appendix 4.5.D: Fear Mixed with Challenge Appeal Designed for the Current Study (for Male Respondents)



Appendix 4.5.E: Fear Mixed with Challenge Appeal Designed for the Study (for Female Respondents)



Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout

Qualtrics Survey Software

Default Question Block

WELCOME AND THANK YOU for agreeing to participate in this survey!

This short questionnaire is designed to capture how some images seen in advertising makes people feel... like 'happy' or 'sad' or 'worried'.

*So we are only interested in **YOUR feelings** regarding what you see.*

There are no right or wrong emotions, so just tell us truthfully your first feelings!

Let's practice a little and familiarize yourself with the how this works.

Please look at the following advertisement.

*What is your **immediate** feeling about it?*

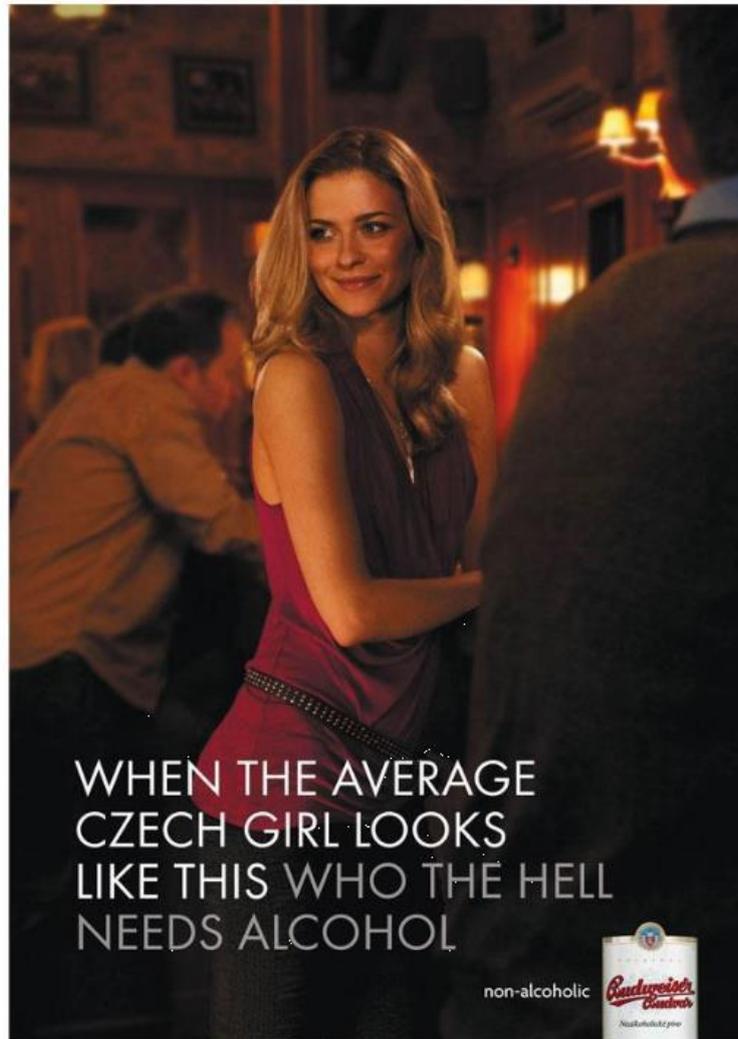
For example, this ad may make you feel **happy**; if so, find **happy** on the list of emotions below and indicate **how strongly you feel happy (from 2 = A little to 9 = Very much)**. Please note, if you do not feel certain emotions on a list below - then click(**or alternatively move sliders**) on 1(**1 Not at all = no feelings**). If you feel several emotions on a list below- then click on number which shows how strongly you feel it/them

Try yourself and let us know what do you feel after looking at the following ad !

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	1 Not at all	2	3	4	5	6	7	8	9 Very much
Hopeful	<input type="radio"/>								
Fun	<input type="radio"/>								
Happy	<input type="radio"/>								
Scared	<input type="radio"/>								
Fearful	<input type="radio"/>								
Sad	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Disgusted	<input type="radio"/>								
Anxious	<input type="radio"/>								
Afraid	<input type="radio"/>								
Determined	<input type="radio"/>								
Angry	<input type="radio"/>								
Inspired	<input type="radio"/>								
Guilty	<input type="radio"/>								
Eager	<input type="radio"/>								

Great ! Just keep going!

What is your gender ?

- Male
- Female

Block 1

Briefly look at the following advertisement. Please click on the number to show the strength of the emotion/s you feel from the list below (from 1 = not at all, to 9= very much).



	1 Not at all	2	3	4	5	6	7	8	9 Very much
--	--------------	---	---	---	---	---	---	---	-------------

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Determined	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Sad	<input type="radio"/>								
Fearful	<input type="radio"/>								
Scared	<input type="radio"/>								
Anxious	<input type="radio"/>								
Fun	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Angry	<input type="radio"/>								
Guilty	<input type="radio"/>								
Inspired	<input type="radio"/>								
Afraid	<input type="radio"/>								
Happy	<input type="radio"/>								
Eager	<input type="radio"/>								

Briefly look at the following advertisement. Please click on the number to show the strength of the emotion/s you feel from the list below (from 1 = not at all, to 9= very much).



	1 Not at all	2	3	4	5	6	7	8	9 Very much
Angry	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Anxious	<input type="radio"/>								
Sad	<input type="radio"/>								
Inspired	<input type="radio"/>								
Afraid	<input type="radio"/>								
Fearful	<input type="radio"/>								
Determined	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Scared	<input type="radio"/>								
Eager	<input type="radio"/>								
Fun	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Guilty	<input type="radio"/>								
Happy	<input type="radio"/>								

Block 2

Briefly look at the following advertisement. Please click on the strength of the emotion/s you feel from the list below (from 1 = not at all, to 9= very much).



	1 Not at all	2	3	4	5	6	7	8	9 Very much
Happy:	<input type="radio"/>								
Hopeful:	<input type="radio"/>								
Afraid:	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Disgusted:	<input type="radio"/>								
Fearful:	<input type="radio"/>								
Anxious:	<input type="radio"/>								
Scared:	<input type="radio"/>								
Guilty:	<input type="radio"/>								
Fun:	<input type="radio"/>								
Determined:	<input type="radio"/>								
Angry:	<input type="radio"/>								
Inspired:	<input type="radio"/>								
Eager	<input type="radio"/>								
Sad:	<input type="radio"/>								

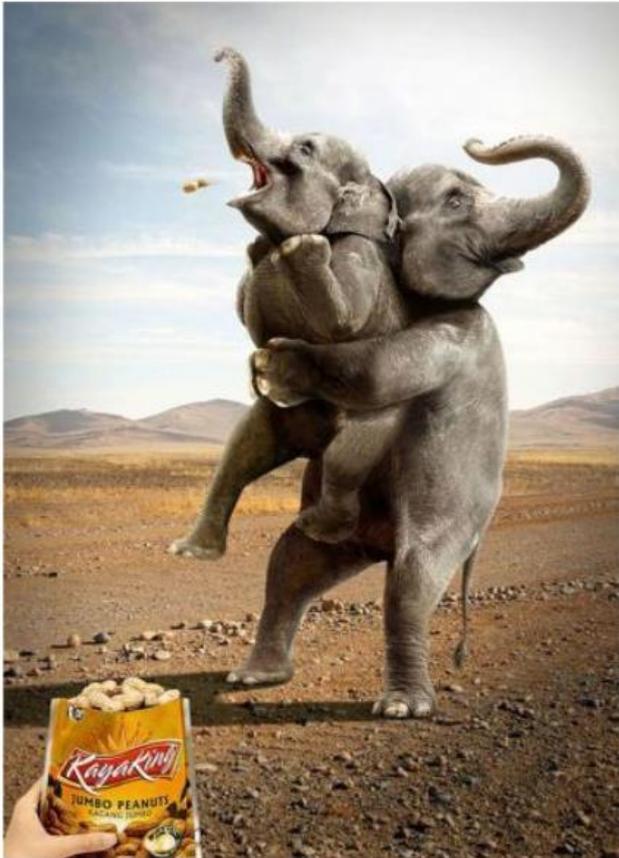
Block 3

Briefly look at the following advertisement. Please click on the number to show the strength of the emotion/s you feel from the list below (from 1 = not at all, to 9= very much).

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	1 Not at all	2	3	4	5	6	7	8	9 Very much
Afraid	<input type="radio"/>								
Anxious	<input type="radio"/>								
Fun	<input type="radio"/>								
Angry	<input type="radio"/>								
Inspired	<input type="radio"/>								
Scared	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Sad	<input type="radio"/>								
Fearful	<input type="radio"/>								
Happy	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Eager	<input type="radio"/>								
Determined	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.1: An Example of Pilot Test One - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Guilty

Block 4

Briefly look at the following advertisement. Please click on the strength of the emotion/s you feel from the list below (from 1 = not at all, to 9= very much).



	1 Not at all	2	3	4	5	6	7	8	9 Very much
Anxious	<input type="radio"/>								
Fun	<input type="radio"/>								
Inspired	<input type="radio"/>								
Guilty	<input type="radio"/>								
Determined	<input type="radio"/>								
Scared	<input type="radio"/>								
Happy	<input type="radio"/>								
Eager	<input type="radio"/>								
Fearful	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Angry	<input type="radio"/>								
Afraid	<input type="radio"/>								
Sad	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=41TotO...>

Appendix 5.2.A: Pilot Test One - Descriptive Statistics for Emotional Indicator Items

	N	Mean	SD	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Determined	196	3.85	2.706	.390	.174	-1.198	.346
Hopeful	196	3.38	2.580	.619	.174	-.986	.346
Eager	196	3.11	2.506	.831	.174	-.585	.346
Inspired	196	3.41	2.675	.649	.174	-.968	.346
Scared	196	4.64	2.906	.052	.174	-1.484	.346
Fearful	196	4.59	2.919	.130	.174	-1.440	.346
Afraid	196	4.52	2.929	.120	.174	-1.476	.346
Anxious	196	4.21	2.743	.301	.174	-1.282	.346
Angry	196	3.85	2.579	.468	.174	-1.022	.346
Sad	196	5.44	2.772	-.279	.174	-1.229	.346
Disgusted	196	4.45	2.811	.190	.174	-1.329	.346
Guilty	196	4.02	2.724	.311	.174	-1.321	.346
Fun	196	2.60	2.275	1.205	.174	.134	.346
Happy	196	2.54	2.270	1.244	.174	.207	.346

Note: Challenge and fear items are marked in bold

Appendix 5.2.B: Tests of Normality for All Emotional Items

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Determined	.211	196	.000	.863	196	.000
Hopeful	.251	196	.000	.829	196	.000
Eager	.279	196	.000	.801	196	.000
Inspired	.265	196	.000	.817	196	.000
Scared	.165	196	.000	.881	196	.000
Fearful	.160	196	.000	.883	196	.000
Afraid	.167	196	.000	.876	196	.000
Anxious	.158	196	.000	.891	196	.000
Angry	.161	196	.000	.889	196	.000
Sad	.141	196	.000	.903	196	.000
Disgusted	.155	196	.000	.894	196	.000
Guilty	.194	196	.000	.874	196	.000
Fun	.320	196	.000	.728	196	.000
Happy	.338	196	.000	.712	196	.000

Note: Challenge and fear items are marked in bold

Appendices 5.3: Pilot Test One - Exploratory Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.797
Bartlett's Test of Sphericity	Approx. Chi-Square	969.347
	df	21
	Sig.	.000

Communalities		
	Initial	Extraction
Determined	1.000	.721
Hopeful	1.000	.752
Eager	1.000	.637
Inspired	1.000	.760
Scared	1.000	.919
Fearful	1.000	.871
Afraid	1.000	.914

Extraction Method: Principal Component Analysis.

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.576	51.091	51.091	3.576	51.091	51.091	3.022
2	1.997	28.531	79.622	1.997	28.531	79.622	2.992
3	.468	6.679	86.301				
4	.415	5.926	92.228				
5	.282	4.033	96.260				
6	.159	2.272	98.532				
7	.103	1.468	100.000				

Extraction Method: Principal Component Analysis.

Appendix 5.4.A: Pilot Test One - Wilcoxon Signed-Rank Test

Appeal Type			Challenge Index	Fear Index
Fear mixed with challenge	N	Valid	44	44
		Missing	0	0
	Mean		3.36	3.63
	Median		3.17	3.67
	Mode		1	1
	Std. Deviation		1.953	2.126
	Skewness		.366	.481
	Kurtosis		-1.053	-.520
Challenge appeal	N	Valid	43	43
		Missing	0	0
	Mean		4.95	3.52
	Median		5.33	3.00
	Mode		6	1
	Std. Deviation		2.386	2.420
	Skewness		-.314	.457
	Kurtosis		-.920	-1.268
Fear appeal	N	Valid	109	109
		Missing	0	0
	Mean		3.07	5.39
	Median		2.33	6.00
	Mode		1	9
	Std. Deviation		2.194	2.893
	Skewness		.770	-.331
	Kurtosis		-.646	-1.432

Appeal Type		Challenge Index	Fear Index
Fear mixed with challenge appeal	Z	-1.199 ^b	
	Asymp. Sig. (2-tailed)	.231	
Challenge appeal	Z	-3.612 ^c	
	Asymp. Sig. (2-tailed)	.000	
Fear appeal	Z	-6.352 ^b	
	Asymp. Sig. (2-tailed)	.000	

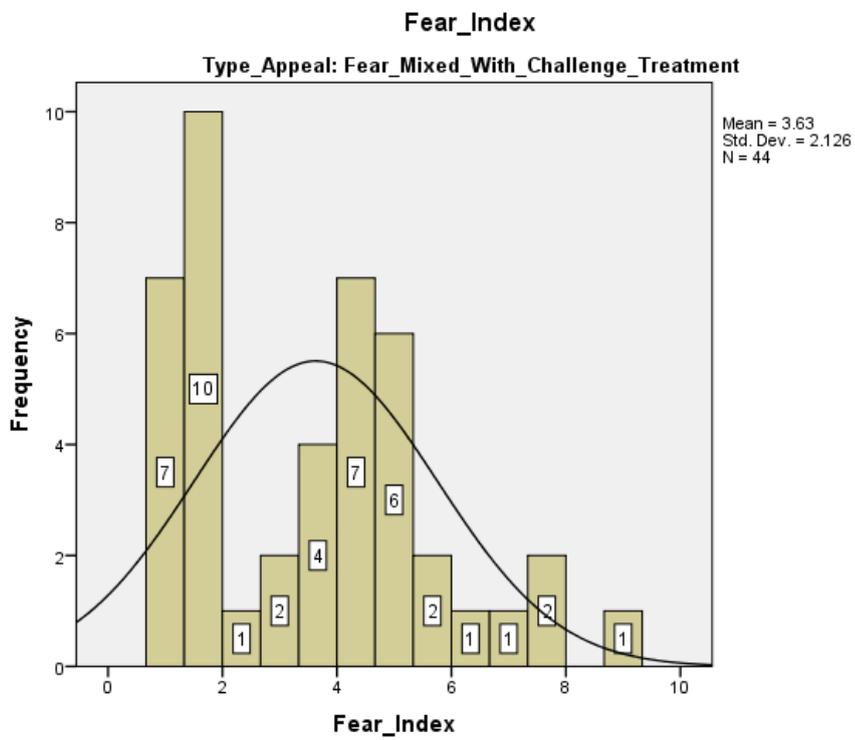
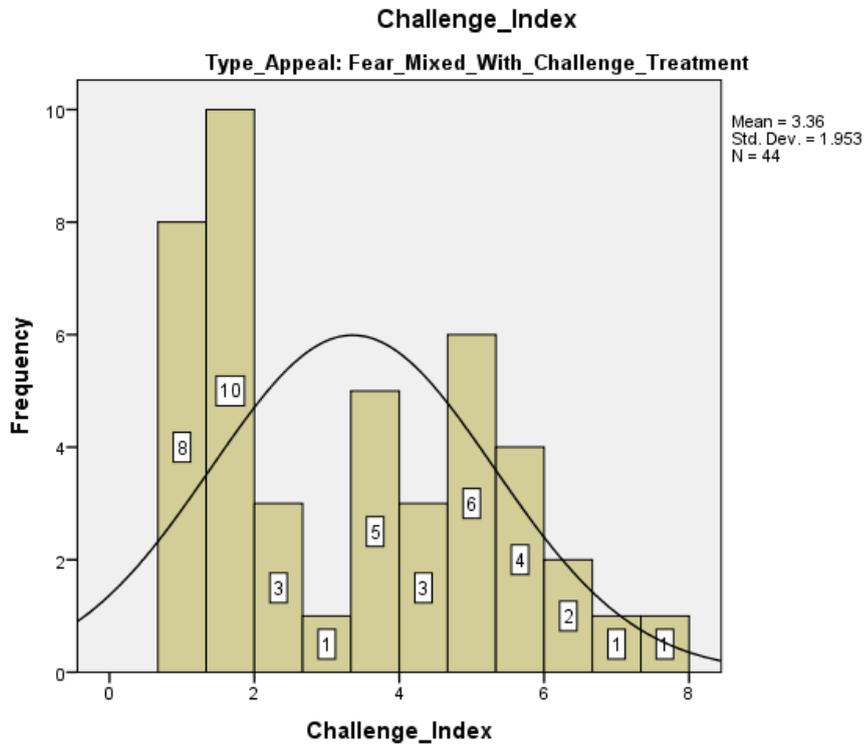
- a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.
c. Based on negative ranks.

Appendix 5.4.B: Pilot Test One - Wilcoxon Signed-Rank Test ^a with Gender Split

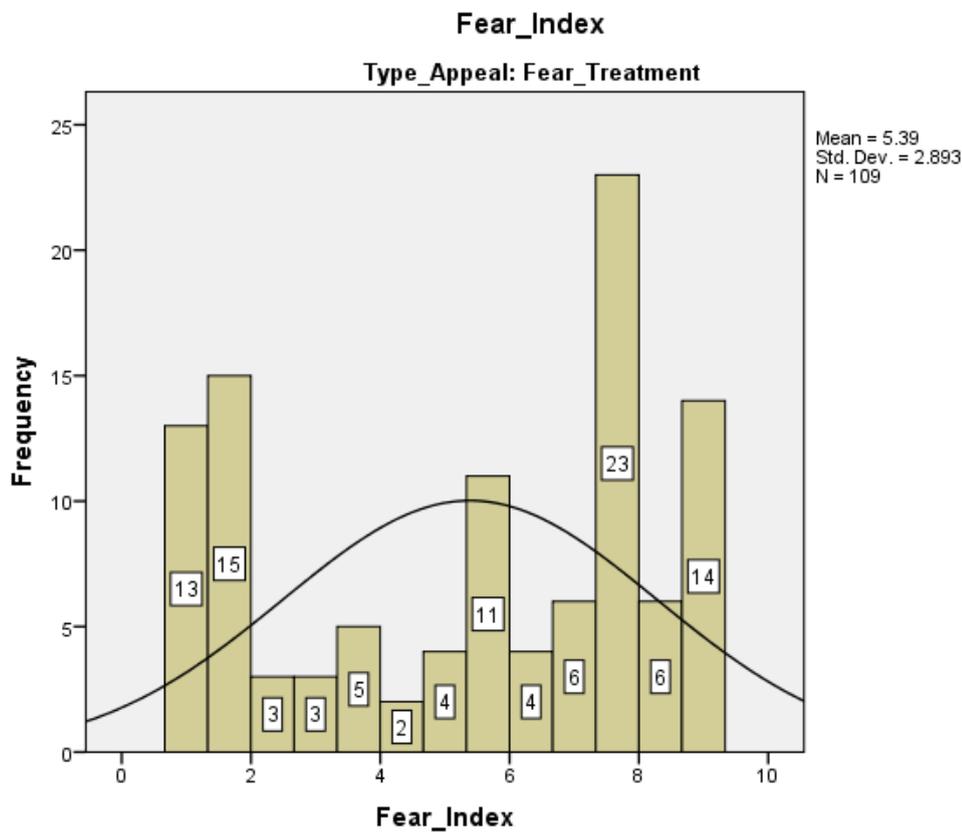
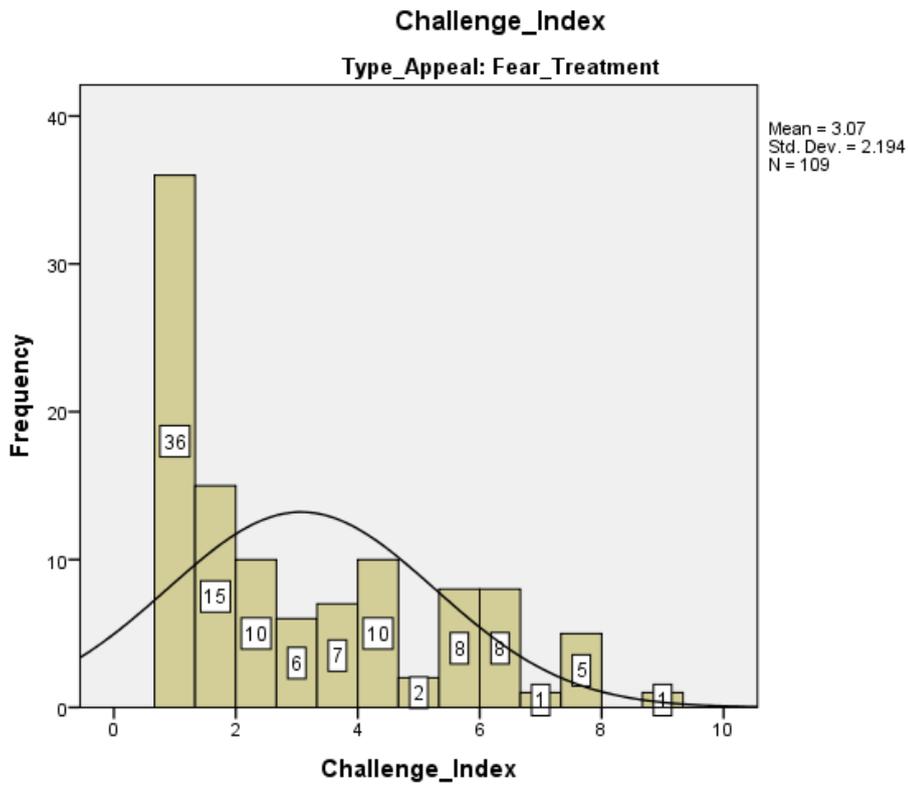
Appeal Type:	Gender		Challenge Index	Fear Index
Fear mixed with challenge appeal	Male	Z	-1.057 ^b	
		Asymp. Sig. (2-	.291	
Challenge appeal	Female	Z	-.495 ^b	
		Asymp. Sig. (2-	.621	
Fear appeal	Male	Z	-2.559 ^c	
		Asymp. Sig. (2-	.010	
Fear appeal	Female	Z	-2.560 ^c	
		Asymp. Sig. (2-	.010	
Fear appeal	Male	Z	-2.861 ^b	
		Asymp. Sig. (2-	.004	
Fear appeal	Female	Z	-5.737 ^b	
		Asymp. Sig. (2-	.000	

- a. Wilcoxon Signed Ranks Test: b. Based on positive ranks c. Based on negative ranks.

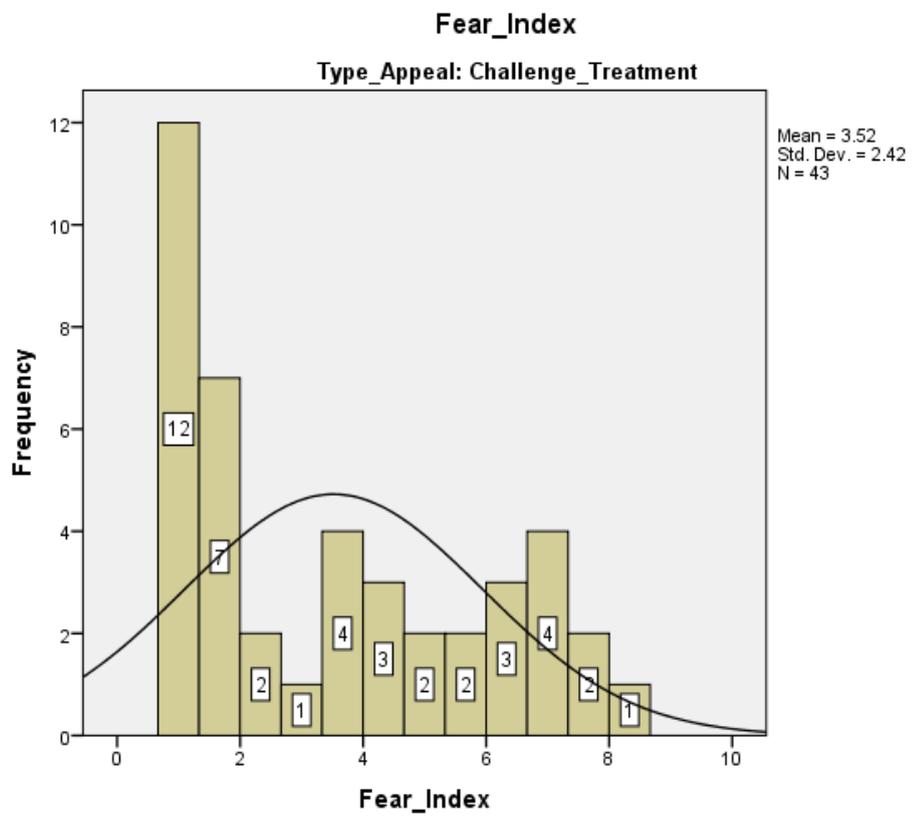
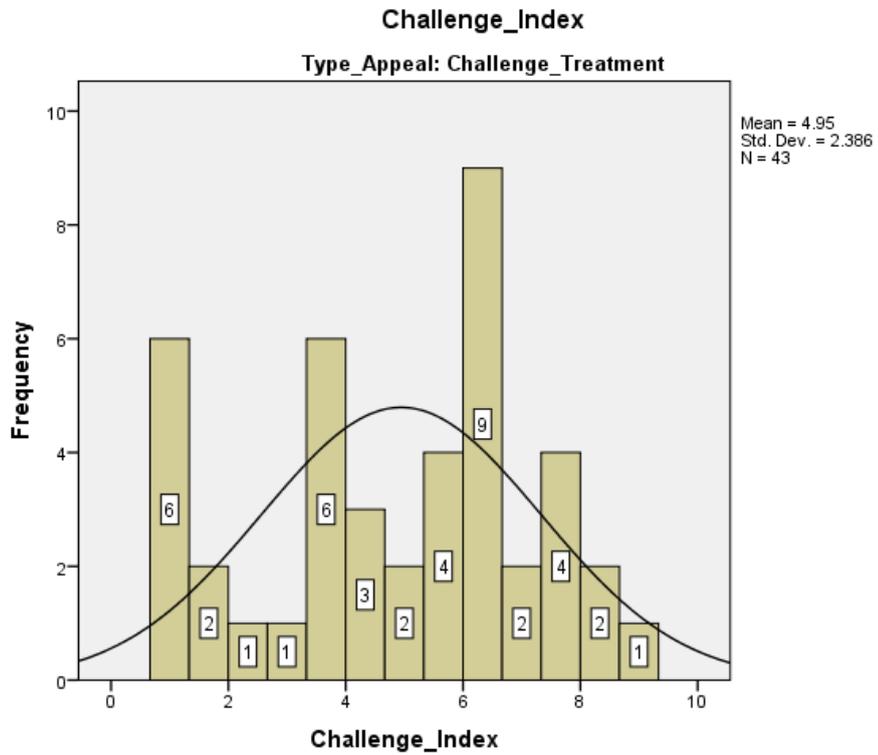
Appendix 5.5.A: Pilot-Test One- Frequencies and Histograms of Fear and Challenge indices, Split by Appeal Type (Fear Mixed with Challenge)



Appendix 5.5.B: Pilot-Test One - Frequencies and Histograms of Fear and Challenge Indices, Split by Appeal Type (Fear Appeal)



Appendix 5.5.C: Pilot-Test One - Frequencies and Histograms of Fear and Challenge indices, Split by Appeal Type (Challenge Appeal)



Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout

Qualtrics Survey Software

Block 1 Incusion/Exclusion Criteria

Q1.

Hello and Welcome to this survey !

This research is being undertaken to gather consumer responses and opinions regarding the various approaches to social advertising campaigns.

We would like to ask you a quick question to understand you better and then direct you to the main part of the survey if you qualify for our study!

Please indicate which of the following types of gambling you have enjoyed in the past 12 months via any means, e.g. online, at a casino or pub.

	Never	1 or 2 times a year	Once a month	2-3 times per week	4-5 times per week	Usually every day
Card games, e.g., poker, blackjack	<input type="radio"/>					
Poker-machines	<input type="radio"/>					
Racing (horses, dogs)	<input type="radio"/>					
Sports (not including dog or horse races)	<input type="radio"/>					
Crosslotto, Powerball or Pools	<input type="radio"/>					
Keno	<input type="radio"/>					
Scratch tickets	<input type="radio"/>					
Bingo	<input type="radio"/>					

Q2. What year were you born?

Intro

Q3.

Great ! You have qualified to participate in our online survey !

You will view/read the advertisement first at a convenient time when you are not disturbed and answer questions in regards to the advertisement you had seen. Additionally, you will be asked some questions similar to personality tests.

Remember there are no right or wrong answers!

It's only your personal opinion that matter! Your participation will only take about 20 minutes. The survey software is designed to 'pick-up' when people are providing candid and well considered answers to the questions - this can result in your questionnaire not be considered complete.

There is absolutely no risk to you. Your participation is entirely voluntary and no personal details about you will be recorded. Your answers will be only presented in aggregate form in the outcomes of statistical analysis and reporting.

You can withdraw from the on-line survey at any moment. In the unlikely event of emotional discomfort after viewing the advertisement you are advised to call free and confidential gambling help lines (24 hour/ 7 days a week access/ free) provided below for your convenience below. Toll free 1800182325 (country free call); Free Gambling Helpline 1800 858 858 or 1800060757. Someone is there to speak to you about your concerns 24 hours/day; 7 days/week

This research project (Ethics approval number HP-2013-047) is conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (see <http://nhmrc.gov.au/publications/synopses/e72syn.htm>). For

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

further information about the research and outcomes this research please contact PhD candidate Svetlana de Vos at the University of Adelaide (08) 831 31 722) svetlana.devos@adelaide.edu.au or Dr. Roberts Crouch roberta.crouch@adelaide.edu.au (08) 831 3689. Should you have any concerns about this survey or any information you have been given in relation to it, you can contact the Human Research Ethics Committee's Secretariat on phone (08) 831 36028 or by e-mail to hrac@adelaide.edu.au. If you would like any independent advice regarding this survey or would like to make a complaint please follow this link: www.adelaide.edu.au/ethics/human/guidelines/applications/complain.doc

By voluntarily participating in the survey, you are providing your consent and confirm that you are aged 18 years or older.

By pressing the next button, you are consenting to participate in this survey.

Q4. What is your combined annual household income?

Q5. What is the highest level of education you have completed?

- High school or below
- Trade or vocational school e.g. TAFE
- Bachelor Degree
- Masters
- Ph.D.

gender

Q6. What is your gender?

- Male
- Female

Training + Stimuli

Q7.

This questionnaire is designed to capture how some advertisements makes people feel... like 'inspired', 'happy', 'sad' or 'worried' or 'excited' or 'scared'.

We are only interested in YOUR feelings so there are no right or wrong answers! Just tell us truthfully about your first reactions!

[Let's practice a little to familiarise yourself with the how this works.](#)

Please look at the following advertisement.

What are your immediate feelings - and how strongly do you feel them?

For example, this ad may make you feel happy; if so, find happy on the list of emotions below and indicate how strongly you feel happiness? (from 1 = Not at all, to 9 = Very much).

Please note, if you do not feel certain emotions on a list below - then click on 1(1 Not at all = no feelings). If you feel several emotions on a list below- then click on numbers which show how strongly you feel them (from 2 = A little to 9 = Very much).

Try it and let us know what do you feel!

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all	1	2	3	4	5	6	7	8	Very much
Anxious	1	<input type="radio"/>	9							
Scared	<input type="radio"/>									
Afraid	<input type="radio"/>									
Inspired	<input type="radio"/>									
	Not at all									Very much
	1	2	3	4	5	6	7	8	9	
Fun	<input type="radio"/>									
Eager	<input type="radio"/>									
Fearful	<input type="radio"/>									
Determined	<input type="radio"/>									
	Not at all									Very much
	1	2	3	4	5	6	7	8	9	
Hopeful	<input type="radio"/>									
Happy	<input type="radio"/>									
Sad	<input type="radio"/>									

Q8.

Great! Just keep going!

What comes next is an advertisement that will form the basis of the questions that follow.

Q9.

Look at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all	1	2	3	4	5	6	7	8	Very much
Fun	<input type="radio"/>									
Eager	<input type="radio"/>									
Scared	<input type="radio"/>									
Fearful	<input type="radio"/>									
Guilty	<input type="radio"/>									
	Not at all									Very much
Inspired	<input type="radio"/>									
Disgusted	<input type="radio"/>									
Hopeful	<input type="radio"/>									
Happy	<input type="radio"/>									
Angry	<input type="radio"/>									
	Not at all									Very much
Afraid	<input type="radio"/>									
Determined	<input type="radio"/>									
Anxious	<input type="radio"/>									
Sad	<input type="radio"/>									

Q10.

Look at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all								Very much
	1	2	3	4	5	6	7	8	9
Angry	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Afraid	<input type="radio"/>								
Fearful	<input type="radio"/>								
Guilty	<input type="radio"/>								
	Not at all								Very much
	1	2	3	4	5	6	7	8	9
Eager	<input type="radio"/>								
Inspired	<input type="radio"/>								
Anxious	<input type="radio"/>								
Sad	<input type="radio"/>								
Determined	<input type="radio"/>								
	Not at all								Very much
	1	2	3	4	5	6	7	8	9
Happy	<input type="radio"/>								
Scared	<input type="radio"/>								
Fun	<input type="radio"/>								
Hopeful	<input type="radio"/>								

Q11.
Look at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	8	5	3	Not at all 1	4	6	2	Very much 9	7
Happy	<input type="radio"/>								
Afraid	<input type="radio"/>								
Scared	<input type="radio"/>								
Fearful	<input type="radio"/>								
Angry	<input type="radio"/>								
				Not at all 1	4	6	2	Very much 9	7
Guilty	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Anxious	<input type="radio"/>								
Determined	<input type="radio"/>								
				Not at all 1	4	6	2	Very much 9	7
Eager	<input type="radio"/>								
Fun	<input type="radio"/>								
Inspired	<input type="radio"/>								
Sad	<input type="radio"/>								

Q12.
Look at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	6	3	Not at all 1	5	2	8	Very much 9	7	4
Hopeful	<input type="radio"/>								
Happy	<input type="radio"/>								
Fun	<input type="radio"/>								
Anxious	<input type="radio"/>								
Sad	<input type="radio"/>								
			Not at all 1				Very much 9		
Determined	<input type="radio"/>								
Disgusted	<input type="radio"/>								
Scared	<input type="radio"/>								
Angry	<input type="radio"/>								
Afraid	<input type="radio"/>								
			Not at all 1				Very much 9		
Eager	<input type="radio"/>								
Inspired	<input type="radio"/>								
Guilty	<input type="radio"/>								
Fearful	<input type="radio"/>								

Q13.
Look at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	5	4	7	8	2	Not at all 1	3	Very much 9	6
Afraid	<input type="radio"/>								
Happy	<input type="radio"/>								
Anxious	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Determined	<input type="radio"/>								
						Not at all 1	3	Very much 9	6
Angry	<input type="radio"/>								
Guilty	<input type="radio"/>								
Inspired	<input type="radio"/>								
Fun	<input type="radio"/>								
Disgusted	<input type="radio"/>								
						Not at all 1	3	Very much 9	6
Sad	<input type="radio"/>								
Eager	<input type="radio"/>								
Fearful	<input type="radio"/>								
Scared	<input type="radio"/>								

Block :Perceived suceptability

Q14.

After seeing the ad, please indicate the strength of your agreement with the following statements on a scale from 1 = Strongly disagree to 9 = Strongly agree.

	Strongly Disagree 1	2	3	4	5	6	7	8	Strongly Agree 9
I think it's possible that I have a problem with gambling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I continue to gamble like I am, my personal life could suffer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

If I keep gambling like I am, I could suffer the same fate as the person in the ad.

Block Perceived benefits/Challenge Stimulus/Mixed Stimulus

Q15.
After seeing the ad, please indicate the strength of your agreement with the following statements on a scale from 1 = No chance to 9 = Certain to happen.

	No chance								Certain to happen
	1	2	3	4	5	6	7	8	9
People who are affected by gambling would get the respect of their friends if they sought help.	<input type="radio"/>								
'Setting Yourself Free' from gambling will lead to greater control of your life.	<input type="radio"/>								
Getting help with a gambling problem leads to better health and well being.	<input type="radio"/>								
The people who care most about me, would approve if I 'Set Myself Free' from gambling as the ad suggests.	<input type="radio"/>								
'Setting Yourself Free' from gambling and seeking help sets a good example for others.	<input type="radio"/>								
Seeking help with regards to gambling leads to less stress and anxiousness.	<input type="radio"/>								
A person would feel a sense of achievement if they sought help for their gambling.	<input type="radio"/>								

Modes/Involvement/SelfAccount/Response efficacy/Attitude/Behavioural Intentions

Q16.
After seeing the ad, please indicate the strength of your agreement with the following statements on a scale from 1 = Strongly disagree to 9 = Strongly agree.

	Strongly Disagree								Strongly Agree
	1	2	3	4	5	6	7	8	9
After seeing the ad, I thought about what it had to say.	<input type="radio"/>								
I thought seriously about how the messages in the ad may apply to me personally.	<input type="radio"/>								
The ad gave me a better/broader understanding of the potential issues related to gambling.	<input type="radio"/>								
I reflected about the messages in this ad, even though I may not agree with them.	<input type="radio"/>								
The ad was thought provoking.	<input type="radio"/>								
I got involved in what the ad had to say.	<input type="radio"/>								
The ad was very interesting.	<input type="radio"/>								
I felt strong emotions looking at this ad.	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

I'll do anything to avoid feeling distressed or upset.	<input type="radio"/>								
Being distressed scares me.	<input type="radio"/>								
	Strongly disagree								Strongly agree
	1	2	3	4	5	6	7	8	9
I can't handle feeling distressed or upset.	<input type="radio"/>								
When I feel distressed or upset, I must do something about it immediately	<input type="radio"/>								

Q20. Please enter a response on a scale of 1 to 9, with 1 = Strongly disagree and 9 = Strongly agree to indicate the extent to which you agree or disagree with each statement.

	Strongly disagree								Strongly agree
	1	2	3	4	5	6	7	8	9
I enjoy tackling problems which are complex with no clear answers.	<input type="radio"/>								
I avoid situations that are complicated and not easily understood.	<input type="radio"/>								
I feel threatened when problems are not just 'black and white'.	<input type="radio"/>								
I find it hard to make a decision when the outcome is uncertain.	<input type="radio"/>								
	Strongly disagree								Strongly agree
	1	2	3	4	5	6	7	8	9
I try to avoid situations which are ambiguous.	<input type="radio"/>								
I like it when situations can be interpreted in more than one way	<input type="radio"/>								
I can't tolerate ambiguous situations.	<input type="radio"/>								
I try to avoid problems which do not seem to have only one "best" solution.	<input type="radio"/>								

PGI

Q21. The following questions are about how you have been feeling over the past 12 months.

Please click on the number that best describes how have you been feeling in the past 12 months.

	Never								All the time
	1	2	3	4	5	6	7	8	9
How often have people criticised your betting, or tell you that you have a gambling problem ?	<input type="radio"/>								
How often do you feel stress and anxiety due to gambling ?	<input type="radio"/>								
How often do you borrow money or sell anything to get money to gamble ?	<input type="radio"/>								
How often do you gamble again, to try to win back losses?	<input type="radio"/>								
How often do you find that to get excited, you need to make ever larger bets ?	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

	Never								time
	1	2	3	4	5	6	7	8	9
How often do you feel guilty about your gambling ?	<input type="radio"/>								
How often do you feel that you might have problem with gambling ?	<input type="radio"/>								
How often does your gambling cause any financial problems for you or your family ?	<input type="radio"/>								
How often do you gamble more than you could really afford ?	<input type="radio"/>								

Info/ Gift cards

Q22. There is a chance that thinking about problem gambling issues may make you feel uncomfortable or remind you of previous experiences. If you are experiencing distress, please contact the support sources listed at the bottom of this page. These services are free and confidential.

Please click the Next button below this table to submit your survey responses.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...>

Appendix 5.6: Pilot Test Two - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Gambling Help Services Directory Card These services are free and confidential	
ALL Divisions and Networks - Statewide Services Gambling Helpline 1800 060 757 Telephone counselling and support for those affected by gambling, including family and friends • Referral to Gambling Help Services • Written information posted upon request • Crisis management and referral • Relapse management For interpreting please contact the Telephone Interpreter Service (TIS) on 131 450 and ask the interpreter to telephone the Gambling Helpline on 1800 060 757 Alternatively, call the Gambling Helpline who will contact TIS to organise an interpreter Offenders Aid Rehabilitation Service Head Office: Adelaide (but services provided throughout SA) Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members Overseas Chinese Association Head Office: Findon (but services provided throughout SA) 110 Citardes Road, Findon, 5023 08 8446 1677 www.oacproblemgambling.com Specialised gambling help service to the Chinese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Cantonese/Mandarin English Vietnamese Community in Australia (SA) Head Office: Athol Park (but services provided throughout SA) 62 Athol Street, Athol Park, 5012 08 8447 8621 Specialised gambling help service to the Vietnamese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Vietnamese English Cambodian Service Head Office: Salisbury (but services provided throughout SA) 08 8296 2170 Specialised gambling help service to the Cambodian community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE PEACE Multicultural Service (Relationships Australia SA) Head Office: Hindmarsh (but services provided throughout SA) 45a Diamond Terrace, Hindmarsh, 5007 08 8246 8100 www.relationships.com.au Specialised gambling help service to the multicultural community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Greek/Arabic/Persian/Italian/Polish/Spanish/Filipino/French/various/Sudanese languages/English and other languages Statewide Gambling Therapy Service Refer to individual Divisions and Networks for contact details Cognitive Behavioural Therapy; one to one and group therapy	Riverland Division of GP - 08 8982 Relationships Australia 9 Kay Avenue, Barni, 5343 08 8562 4122 www.relationships.com.au Statewide Gambling Therapy Service Barni (contact via Bedford Park site) 08 8204 6982 Eyre Peninsula Division of GP - 08 Cadana Koornbe Aboriginal Health Serv 1 Eyre Highway, Cadana, 6090 08 8626 2900 Statewide Gambling Therapy Service • Cadana (contact via Bedford Park site) 08 8204 6982 • Port Lincoln (contact via Salisbury site) 08 8182 4911 UnitingCare Wesley Port Pirie to service the Eyre Peninsula as of June 200 (contact via Port Pirie site) 08 8633 8600 www.uccpp.org.au
GP Partners Adelaide - 08 8112 1100 Aboriginal Family Support Services 134 Waymouth Street, Adelaide, 5000 08 8212 1112 www.afsa.com.au Specialised gambling help services to the Aboriginal community including one on one assistance Offenders Aid Rehabilitation Service 231 Morphett Street, Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members Relationships Australia 55 Hut Street, Adelaide, 5000 08 8223 4566 www.relationships.com.au Provides a range of counselling assistance - gambling, personal, financial and relationship - to individuals, couples or families adversely affected by gambling Gamblers Anonymous 08 8212 6933 • UnitingCare Wesley (Church Chapel) Ground Floor, Pitt Street (enter through Franklin St entrance) Adelaide, 5000 Group meetings Friday 12.30pm • Eastwood Community Centre, 95 Glen Diamond Road Eastwood, 5063 - Group meetings Tuesday 8pm • North Adelaide Baptist Church (near of Church) 146 Tynte Street, North Adelaide, 5006 - Group meetings Wednesday 7.30pm and Saturday 10.30am	Adelaide Northern Division of GP - 08 Anglicare 9 Mary Street, Salisbury SA, 5108 08 8256 2170 www.anglicare-sa.org.au Families SA • 18 Langford Drive, Elizabeth, 5112 08 8207 9000 www.dfc.sa.gov.au • 16-18 Ann Street, Salisbury, 5108 08 8208 4300 www.dfc.sa.gov.au Statewide Gambling Therapy Service 208 John Street, Salisbury 5108 08 8182 4911 Gamblers Anonymous Salvation Army Hall one Maxwell and Bridge Roads, Ingle Farm, E 08 8212 6933 - Group meetings Thursday 8
General Practice Network South - 08 8374 7000 Relationships Australia • Diagonal Road, Dalmeida Park (Westfield), 5046 08 8377 5400 After hours appointments available • For other services in the South and Flinders - contact the Marion site on 08 8377 5400 Families SA • 233 Sturt Road, Marion, 5043 08 8298 0800 www.dfc.sa.gov.au • Shop 15, The Hub Shopping Centre Hub Drive, Aberfoyle Park, 5159 08 8374 8133 www.dfc.sa.gov.au Offenders Aid Rehabilitation Service 87 Dyson Road, Christies Beach, 5165 08 8218 0700 cars.gov.au/services.htm Gamblers Anonymous Park Holme Baptist Church, 80 Hendrie Street (adjacent to car park) Park Holme, 5043 08 8212 6933 Pokies Anonymous Saint Francis of Assisi, c/o 26 O'Halloran and Dyson Roads, Christies Beach, 5165 08 8340 4262 - Group meetings Monday 1-3pm	Adelaide Hills Division of GP - 08 8 Relationships Australia • Adelaide Hills Community Health Centre, Wellington Road, Mt Barker, 5251 08 8223 4566 www.relationships.com.au
Flinders and Far North Division of Aboriginal Family Support Services 47 Commercial Road, Port Augusta, 5700 08 8641 0307 www.afsa.com.au Aboriginal Family Support Services PO Box 957, Coorber Pde, 5725 08 8672 3066 www.afsa.com.au UnitingCare Wesley Port Pirie 60 Florence Street, Port Pirie SA, 5640 08 8633 8600 www.uccpp.org.au Statewide Gambling Therapy Service Port Pirie and Port Augusta (contact via Salis 08 8182 4911 Gamblers Anonymous Roxy Downs Catholic Church 40 Gregory Street, Roxy Downs, 5725 08 8212 6933 - Group meetings Wednesday	Barossa Division of GP - 08 8562 Anglicare via Salisbury Office 9 Mary Street, Salisbury, 5108 08 8256 2170 www.anglicare-sa.org.au
Adelaide Western GP Network - 08 8244 3822 Anglicare 184 Port Road, Hindmarsh, 5007 08 8256 2170	Gambling counselling and financial counselling for people who have a gambling problem and/or family members

https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=3h1gv0...

Appendix 5.7.A: Respondents' Demographic and Socio-economic Characteristics

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	64	48.9	48.9	48.9
	Female	67	51.1	51.1	100.0
	Total	131	100.0	100.0	

Education level completed					
		Frequency	Percent	Valid Percent	Cumulative
Valid	High school or below	51	38.9	38.9	38.9
	Trade or vocational school	35	26.7	26.7	65.6
	Bachelor Degree	35	26.7	26.7	92.4
	Masters	8	6.1	6.1	98.5
	Ph.D.	2	1.5	1.5	100.0
	Total	131	100.0	100.0	

Combined annual household income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than \$30,000	21	16.0	16.0	16.0
	\$30,000 – 39,999	15	11.5	11.5	27.5
	\$40,000 – 49,999	14	10.7	10.7	38.2
	\$50,000 – 59,999	14	10.7	10.7	48.9
	\$60,000 – 69,999	13	9.9	9.9	58.8
	\$70,000 – 79,999	12	9.2	9.2	67.9
	\$80,000 – 89,999	5	3.8	3.8	71.8
	\$90,000 – 99,999	13	9.9	9.9	81.7
	\$100,000 or more	24	18.3	18.3	100.0
	Total	131	100.0	100.0	

Appendix 5.7.B: Gambling Status of Respondents

Problem Gambling Index of Respondents					
		Frequency	Percent	Valid Percent	Cumulative
Valid	low risk	61	46.6	46.6	46.6
	moderate risk	20	15.3	15.3	61.8
	problem gambler	50	38.2	38.2	100.0
	Total	131	100.0	100.0	

Appendix 5.8: Pilot Test Two - the Shapiro Wilk and Kolmogorov-Smirnov Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Sad	.172	131	.000	.884	131	.000
Scared	.201	131	.000	.866	131	.000
Fearful	.202	131	.000	.868	131	.000
Afraid	.237	131	.000	.848	131	.000
Determined	.187	131	.000	.886	131	.000
Hopeful	.183	131	.000	.882	131	.000
Eager	.285	131	.000	.809	131	.000
Inspired	.188	131	.000	.868	131	.000
PS_1	.294	131	.000	.778	131	.000
PS_2	.294	131	.000	.778	131	.000
PS_3	.301	131	.000	.760	131	.000
PB_1	.206	131	.000	.800	131	.000
PB_2	.211	131	.000	.814	131	.000
PB_3	.192	131	.000	.851	131	.000
PB_4	.207	131	.000	.825	131	.000
PB_5	.205	131	.000	.815	131	.000
PB_6	.204	131	.000	.836	131	.000
PB_7	.217	131	.000	.793	131	.000
SMIP_1	.157	131	.000	.933	131	.000
SMIP_2	.166	131	.000	.895	131	.000
SMIP_3	.151	131	.000	.937	131	.000
SMIP_4	.139	131	.000	.925	131	.000
BI_1	.180	131	.000	.905	131	.000
BI_2	.279	131	.000	.802	131	.000
BI_3_Recoded	.201	131	.000	.826	131	.000
RE_1	.139	131	.000	.916	131	.000
RE_2	.159	131	.000	.897	131	.000
RE_3_Recoded	.290	131	.000	.751	131	.000
SA_1	.142	131	.000	.896	131	.000
SA_2	.168	131	.000	.877	131	.000
SA_3	.237	131	.000	.808	131	.000
AT_1	.158	131	.000	.903	131	.000
AT_2	.199	131	.000	.877	131	.000
AT_3	.186	131	.000	.879	131	.000

Appendix 5.8: Pilot Test Two - the Shapiro Wilk and Kolmogorov-Smirnov Tests of Normality (Continued)

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
INV 1 I got involved in what the ad had to say.	.196	131	.000	.925	131	.000
INV 2 The ad was thought provoking.	.176	131	.000	.917	131	.000
INV 3 The ad was very interesting.	.148	131	.000	.942	131	.000
INV 4 I felt strong emotions looking at this ad.	.161	131	.000	.923	131	.000
TNE 1 I cannot handle feeling distressed or upset.	.115	131	.000	.929	131	.000
TNE 2 I am ashamed of myself when I feel distressed or upset.	.150	131	.000	.910	131	.000
TNE 3 Being distressed scares me.	.121	131	.000	.923	131	.000
TNE 4 I will do anything to avoid feeling distressed or upset.	.138	131	.000	.922	131	.000
TNE 5 When I feel distressed or upset, I must do something about it immediately.	.124	131	.000	.936	131	.000
TA 1 Recoded	.152	131	.000	.950	131	.000
TA 2 Recoded	.154	131	.000	.946	131	.000
TA 3 Recoded	.119	131	.000	.941	131	.000
TA 4 Recoded	.098	131	.003	.940	131	.000
TA 5 Recoded	.144	131	.000	.938	131	.000
TA 6 Recoded	.122	131	.000	.948	131	.000
TA 7 I enjoy tackling problems which are complex with no clear answers.	.124	131	.000	.944	131	.000
TA 8 I like it when situations can be interpreted in more than one way	.151	131	.000	.945	131	.000
a. Lilliefors Significance Correction						

Appendix 5.9: Pilot Test Two - Exploratory Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.827
Bartlett's Test of Sphericity	Approx. Chi-Square	4127.191
	df	561
	Sig.	.000

Communalities		
	Initial	Extraction
Determined	.651	.648
Hopeful	.584	.614
Eager	.655	.661
Inspired	.631	.707
Scared	.837	.853
Sad	.512	.382
Fearful	.817	.865
Afraid	.795	.792
PS_1	.829	.884
PS_2	.826	.864
PS_3	.717	.701
PB_1	.957	.954
PB_2	.960	.946
PB_3	.878	.822
PB_4	.953	.937
PB_5	.969	.969
PB_6	.927	.893
PB_7	.965	.967
BI_1	.649	.606
BI_2	.697	.649
BI_3_Recoded	.271	.130
SMIP_1	.670	.598
SMIP_2.	.733	.672
SMIP_3	.766	.802
SMIP_4	.731	.637
RE_1	.638	.725
RE_2	.588	.605
RE_3_Recoded	.344	.273
SA_1	.393	.606
SA_2	.413	.416
SA_3	.494	.515
AT_1	.652	.620
AT_2	.859	.856
AT_3	.820	.749
INV1	.672	.722
INV2	.611	.685
INV3	.663	.673
INV4	.619	.646
DT_1	.529	.613
DT_2	.504	.500
DT_3	.464	.434
DT_4	.546	.600
DT_5.	.453	.457
TA_1_Recoded	.540	.477
TA_2_Recoded	.673	.664
TA_3_Recoded	.745	.765
TA_4_Recoded	.770	.808
TA_5_Recoded	.651	.628
TA_6_Recoded	.644	.646
TA_7_ Positively Worded	.430	.504
TA_8_ Positively Worded	.393	.512

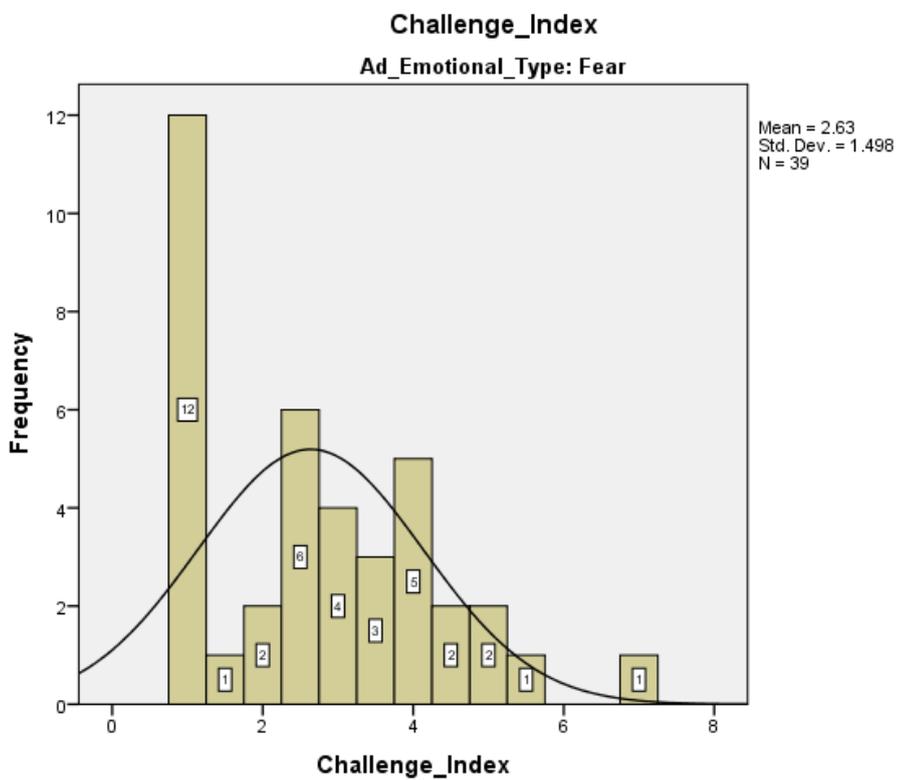
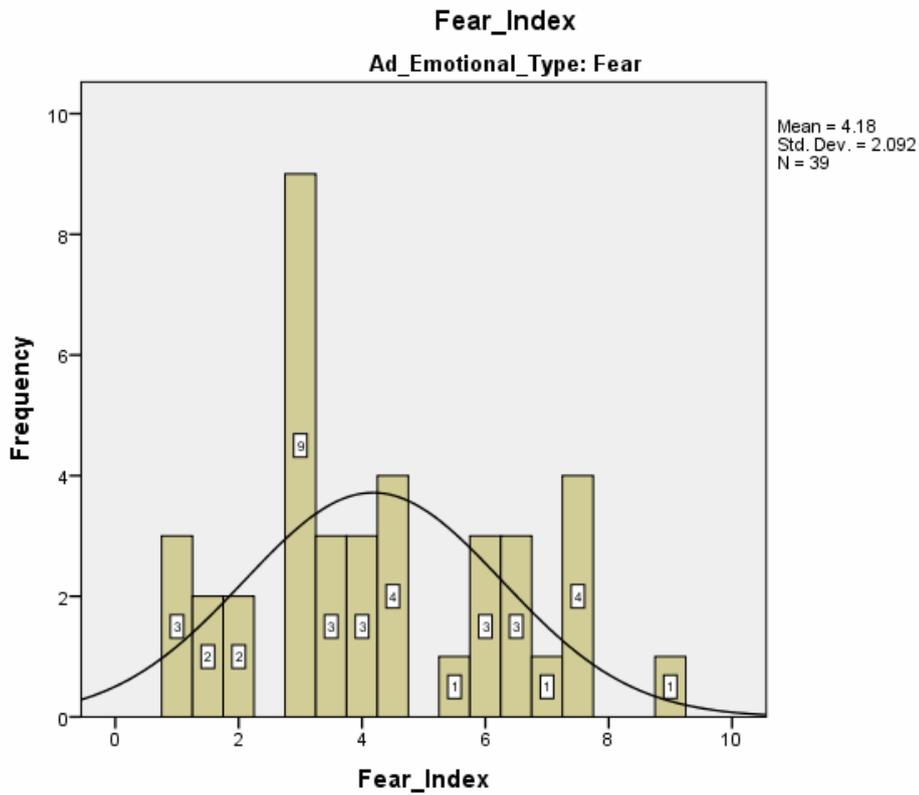
Notes:Extraction Method: Principal Axis Factoring; Low loadings are marked in red.

Appendix 5.10: Pilot Test Two - Wilcoxon Signed-Rank Test

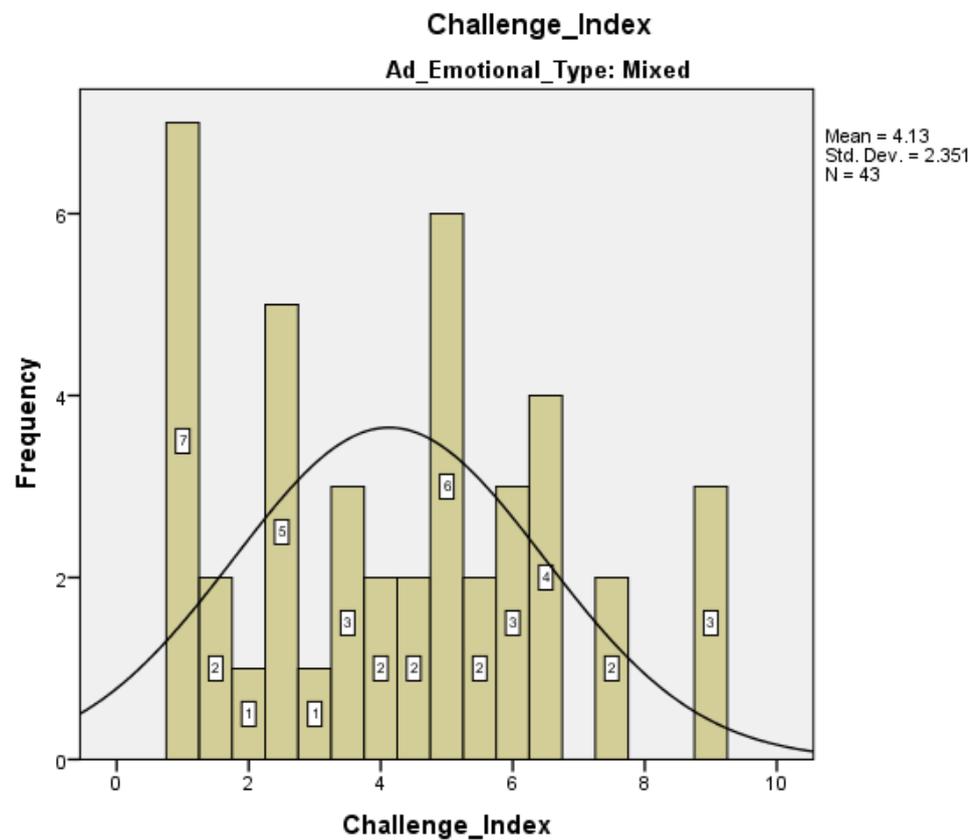
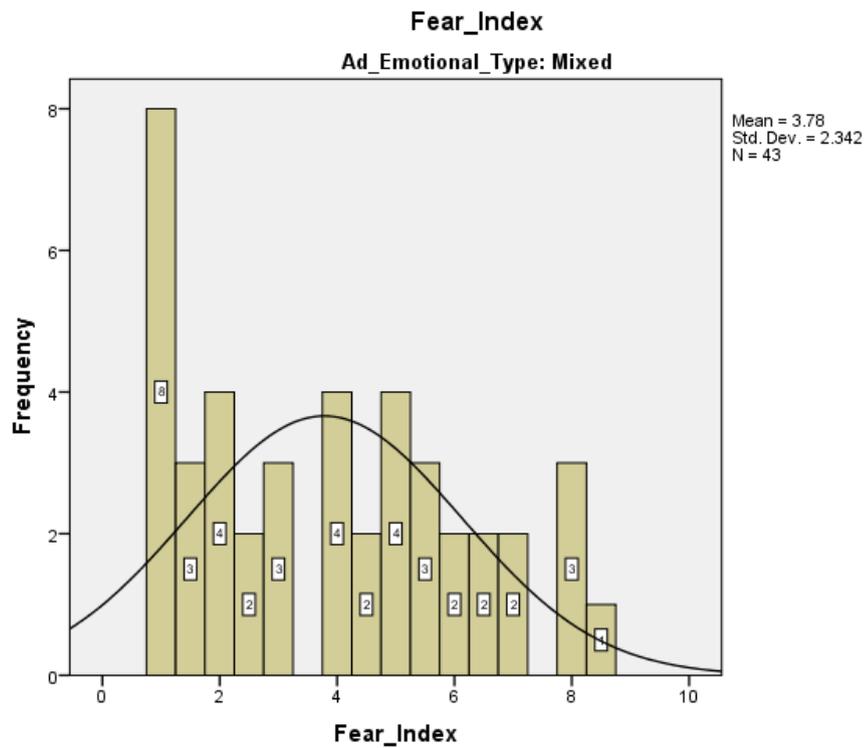
Ranks					
Ad_Emotional_Type			N	Mean Rank	Sum of Ranks
Challenge	Fear_Index – Challenge_Index	Negative Ranks	28 ^a	23.00	644.00
		Positive Ranks	15 ^b	20.13	302.00
		Ties	6 ^c		
		Total	49		
Mixed	Fear_Index - Challenge_Index	Negative Ranks	23 ^a	20.70	476.00
		Positive Ranks	17 ^b	20.24	344.00
		Ties	3 ^c		
		Total	43		
Fear	Fear_Index - Challenge_Index	Negative Ranks	5 ^a	8.30	41.50
		Positive Ranks	31 ^b	20.15	624.50
		Ties	3 ^c		
		Total	39		
a. Fear_Index < Challenge_Index					
b. Fear_Index > Challenge_Index					
c. Fear_Index = Challenge_Index					

Wilcoxon Signed Ranks Test		
Ad_Emotional_Type		Fear_Index - Challenge_Index
Challenge	Z	-2.067 ^a
	Asymp. Sig. (2-tailed)	.039
Mixed	Z	-.888 ^a
	Asymp. Sig. (2-tailed)	.375
Fear	Z	-4.590 ^b
	Asymp. Sig. (2-tailed)	.000
a. Based on positive ranks.		
b. Based on negative ranks.		

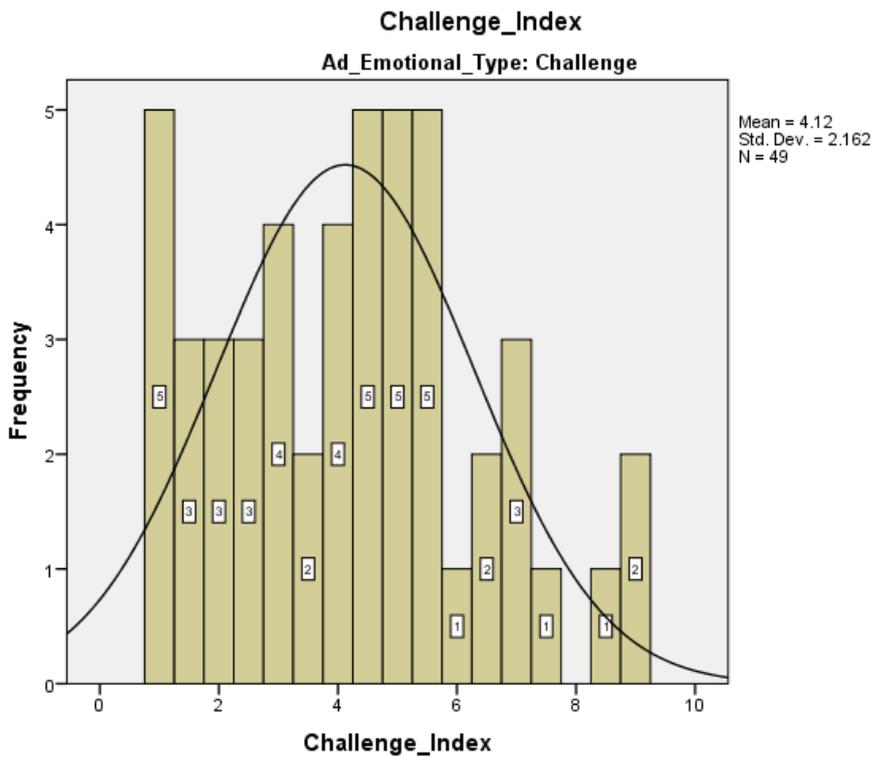
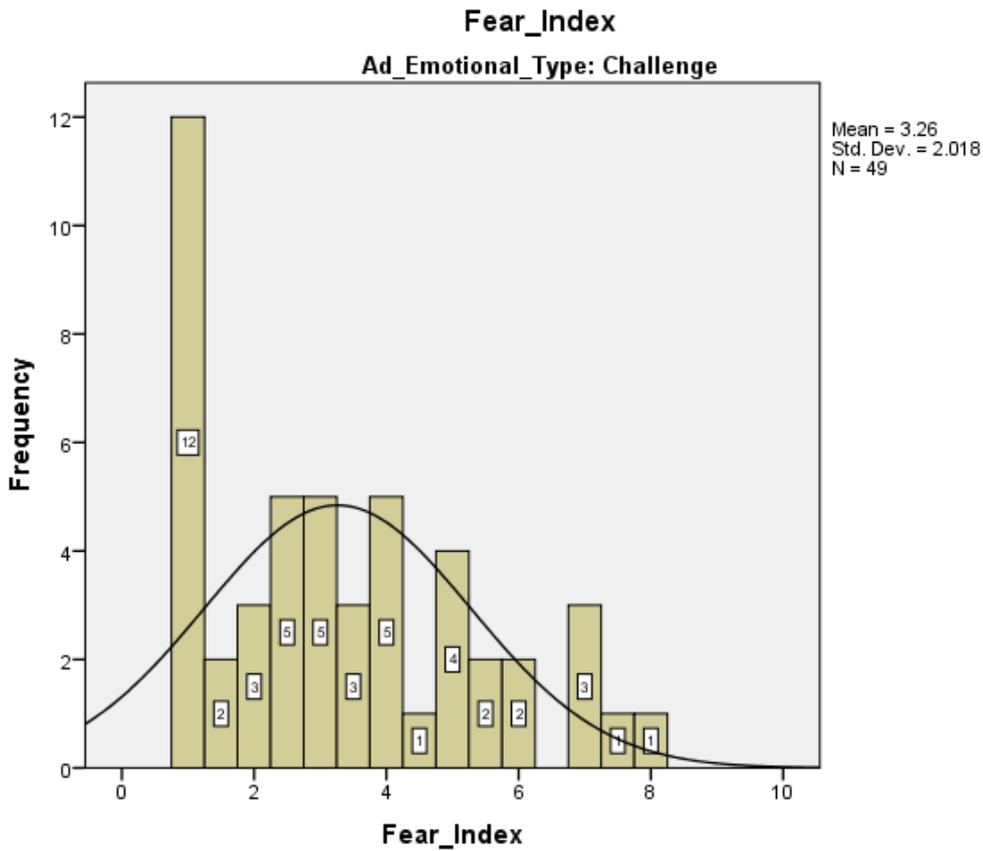
Appendix 5.11.A: Pilot Test Two - Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Fear Appeal)



Appendix 5.11.B: Pilot Test Two - Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Fear Mixed with Challenge Appeal)



Appendix 5.11.C: Pilot-Test Two-Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Challenge Appeal)



Appendix 6.1: The Estimations of the Error Function, Lower Bound Sample Size for a Structural Equation Model and Normal Distribution Cumulative Distribution

Error function:

$$\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt.$$

Lower bound sample size for a structural equation model:

$$n = \max(n_1, n_2)$$

where:

$$n_1 = \left[50 \left(\frac{j}{k} \right)^2 - 450 \left(\frac{j}{k} \right) + 1100 \right]$$

$$n_2 = \left[\frac{1}{2H} \left(A \left(\frac{\pi}{6} - B + D \right) + H + \sqrt{\left(A \left(\frac{\pi}{6} - B + D \right) + H \right)^2 + 4AH \left(\frac{\pi}{6} + \sqrt{A} + 2B - C - 2D \right)} \right) \right]$$

$$A = 1 - \rho^2$$

$$B = \rho \arcsin \left(\frac{\rho}{2} \right)$$

$$C = \rho \arcsin(\rho)$$

$$D = \frac{A}{\sqrt{3-A}}$$

$$H = \left(\frac{\delta}{z_{1-\alpha/2} - z_{1-\beta}} \right)^2$$

where j is the number of observed variables, k is the number of latent variables, ρ is the estimated Gini correlation for a bivariate normal random vector, δ is the anticipated effect size, α is the Sidak-corrected Type I error rate, β is the Type II error rate, and z is a standard normal score.

Normal distribution cumulative distribution function (CDF):

$$F(x; \mu, \sigma^2) = \frac{1}{2} \left[1 + \operatorname{erf} \left(\frac{x - \mu}{\sigma \sqrt{2}} \right) \right],$$

where μ is the mean, σ is the standard deviation, and erf is the error function.

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout

Qualtrics Survey Software

Block 1 Inclusion/Exclusion Criteria

Q1.1

Hello and Welcome to this survey !

This research is being undertaken to gather consumer responses and opinions regarding the various approaches to social advertising campaigns.

We would like to ask you a quick question to understand you better and then direct you to the main part of the survey if you qualify for our study!

Please indicate which of the following types of gambling you have enjoyed in the past 12 months via any means, e.g. online, at a casino or pub.

	Never	1 or 2 times a year	Once a month	2-3 times per week	4-5 times per week	Usually every day
Card games, e.g., poker, blackjack	<input type="radio"/>					
Poker-machines	<input type="radio"/>					
Racing (horses, dogs)	<input type="radio"/>					
Sports (not including dogs or horse races)	<input type="radio"/>					
Crosslotto, Powerball or Pools	<input type="radio"/>					
Keno	<input type="radio"/>					
Scratch tickets	<input type="radio"/>					
Bingo	<input type="radio"/>					

Q1.2 What year were you born?

Intro

Q2.1

Great ! You have qualified to participate in our online survey !

You will view/read the advertisement first at a convenient time when you are not disturbed and answer questions in regards to the advertisement you had seen. Additionally, you will be asked some questions similar to personality tests.

Remember there are no right or wrong answers!

It's only your personal opinion that matter! Your participation will only take about 20 minutes. The survey software is designed to 'pick-up' when people are providing candid and well considered answers to the questions - this can result in your questionnaire not be considered complete.

There is absolutely no risk to you. Your participation is entirely voluntary and no personal details about you will be recorded. Your answers will be only presented in aggregate form in the outcomes of statistical analysis and reporting.

You can withdraw from the on-line survey at any moment. In the unlikely event of emotional discomfort after viewing the advertisement you are advised to call free and confidential gambling help lines (24 hour/ 7 days a week access/ free) provided below for your convenience below. Toll free 1800182325 (country free call); Free Gambling Helpline 1800 858 858 or 1800060757. Someone is there to speak to you about your concerns 24 hours/day; 7 days/week

This research project (Ethics approval number HP-2013-047) is conducted according the National Statement on Ethical Conduct in Human Research (see <http://nhmrc.gov.au/publications/synopses/e172syn.htm>). For further information about the research and outcomes this research please contact PhD candidate Svetlana de Vos at the University of Adelaide (08) 831 31 722) svetlana.devos@adelaide.edu.au or Dr. Roberta Crouch roberta.crouch@adelaide.edu.au (08) 831 3689. Should you have any concerns about this survey or any information you have been given in relation to it, you can contact the Human Research Ethic Committee's secretariat on phone(08) 83135223 or by e-mail to hrec@adelaide.edu.au. If you would like any independent advice regarding this survey or would like to make a complaint please follow the link www.Adelaide.edu.au/ethics/human/guidelines/applications/complain.doc

By voluntarily participating in the survey, you are providing your consent and confirm that you are aged 18 years or older.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

By pressing the next button, you are consenting to participate in this survey.

Q2.2 What is your combined annual household income?

Q2.3 What is the highest level of education you have completed?

- High school or below
- Trade or vocational school e.g. TAFE
- Bachelor Degree
- Masters
- Ph.D.

Q2.4 What is your race?

- White/Caucasian
- African American
- Hispanic
- Asian
- Native American
- Pacific Islander
- Other

gender

Q3.1 What is your gender?

- Male
- Female

Block 2 (Males) Training + Stimuli

Q4.1

This questionnaire is designed to capture how some advertisements makes people feel... like 'inspired', 'happy', 'sad' or 'worried' or 'excited' or 'scared'.

We are only interested in **YOUR feelings** so there are no right or wrong answers! Just tell us truthfully about your first reactions!

Let's practice a little to familiarise yourself with the how this works.

Please look at the following advertisement.

What are your immediate feelings - and how strongly do you feel them?
For example, this ad may make you feel **happy**; if so, find **happy** on the list of emotions below and indicate **how strongly you feel happiness?** (from 1 = **Not at all**, to 9 = **Very much**).

Please note, if you do not feel certain emotions on a list below - then click on 1 (**1 Not at all = no feelings**). If you feel several emotions on a list below- then click on numbers which show how strongly you feel them (from 2 = **A little** to 9 = **Very much**).

Try it and let us know what do you feel!

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all	1	2	3	4	5	6	7	8	Very much	9
Hopeful	<input type="radio"/>										
Fun	<input type="radio"/>										
Sad	<input type="radio"/>										
Inspired	<input type="radio"/>										
Scared	<input type="radio"/>										
Anxious	<input type="radio"/>										
Happy	<input type="radio"/>										
Afraid	<input type="radio"/>										

Q4.2

Great! Just keep going!

What comes next is an advertisement that will form the basis of the questions that follow.

Q4.3

Look carefully at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all							Very much	
	1	2	3	4	5	6	7	8	9
Fearful	<input type="radio"/>								
Scared	<input type="radio"/>								
Sad	<input type="radio"/>								
Afraid	<input type="radio"/>								
Inspired	<input type="radio"/>								
Eager	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Determined	<input type="radio"/>								

Q4.4

Look carefully at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.



	Not at all							Very much	
	1	2	3	4	5	6	7	8	9
	<input type="radio"/>								

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Afraid	<input type="radio"/>								
Hopeful	<input type="radio"/>								
Determined	<input type="radio"/>								
Inspired	<input type="radio"/>								
Scared	<input type="radio"/>								
Eager	<input type="radio"/>								
Sad	<input type="radio"/>								
Fearful	<input type="radio"/>								

Q4.5
Look carefully at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.



	Not at all								Very much	
	1	2	3	4	5	6	7	8	9	
Sad	<input type="radio"/>									
Hopeful	<input type="radio"/>									
Fearful	<input type="radio"/>									
Eager	<input type="radio"/>									
Scared	<input type="radio"/>									
Inspired	<input type="radio"/>									
Determined	<input type="radio"/>									
Afraid	<input type="radio"/>									

Block 3: Training + Stimuli (Females)

Q5.3
Look carefully at the following advertisement. Please click on a number to show the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software



	Not at all	1	2	3	4	5	6	7	8	Very much
Hopeful	<input type="radio"/>									
Determined	<input type="radio"/>									
Eager	<input type="radio"/>									
Fearful	<input type="radio"/>									
Afraid	<input type="radio"/>									
Inspired	<input type="radio"/>									
Sad	<input type="radio"/>									
Scared	<input type="radio"/>									

Q5.4
Look carefully at the following advertisement. Please click on the strength of the emotion/s you feel from the list below from 1 = Not at all, to 9 = Very much.



	Not at all	1	2	3	4	5	6	7	8	Very much
	<input type="radio"/>									

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Afraid	<input type="radio"/>								
Scared	<input type="radio"/>								
Determined	<input type="radio"/>								
Fearful	<input type="radio"/>								
Inspired	<input type="radio"/>								
Sad	<input type="radio"/>								
Eager	<input type="radio"/>								
Hopeful	<input type="radio"/>								

Block _ Alternative _ Emotional _ Assessment

Q6.1

This ad you just have seen may produce negative feelings such as *scared* (or feeling fearful, afraid) in terms of what the effect of problem gambling could have, or it may produce positive emotions such as feeling *hopeful, inspired and determined* - challenging a person to take positive action to control their gambling.

Alternatively, this ad may make you feel *mixed emotions* - e.g. both *afraid* and *inspired* in equal measure.

Whilst most images generate a range of emotions, we need you to choose the way that best describes your *first and strongest* reaction to the image.

There is no right or wrong answer !

Please click on the box which indicates how you feel about this advertisement.

	Mostly negative emotions: Scared, Afraid, Fearful	A comparable mixture of both positive and negative emotions (e.g. Scared and Hopeful or Fearful and Determined)	Mostly positive emotions: Inspired, Determined and Hopeful
This ad makes me feel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Modes/ SelfAccount/Response efficacy/AttitudeAd/ SelfEfficacy/PS/P Sever

Q9.1

Please indicate the strength of your agreement with the following statements on a scale from 1 = Strongly disagree to 9 = Strongly agree.

	Strongly Disagree	1	2	3	4	5	6	7	8	Strongly Agree
I believe that the advised action to ring help and support center is one of the options to address gambling concerns	<input type="radio"/>									<input type="radio"/>
The information in the ad gave me a better/broader understanding of the potential issues related to gambling	<input type="radio"/>									<input type="radio"/>
I think those people who do seek help can avoid the potential problems with gambling.	<input type="radio"/>									<input type="radio"/>
I thought seriously about how the information in the ad may apply to me personally.	<input type="radio"/>									<input type="radio"/>
I reflected about the messages in this ad, even though I may not agree with them	<input type="radio"/>									<input type="radio"/>
	Strongly Disagree									Strongly Agree
	1									9

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection – Web-based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

I perceive that the advised action in the ad to seek professional help could solve gambling problems.	<input type="radio"/>								
After seeing the ad, I thought about what it had to say.	<input type="radio"/>								
I tried to think about the importance of the information enclosed in the ad for my daily life.	<input type="radio"/>								
Calling to a helpline is an efficacious way to face problem gambling.	<input type="radio"/>								

Q9.2 Please indicate the strength of your agreement with the following statements on a scale from 1 = Not at all to 9 = Very much.

	Not at all								Very much
	1	2	3	4	5	6	7	8	9
To what extent did the ad make you feel that you should try to seek professional assistance with gambling?	<input type="radio"/>								
How much did the ad make you feel that, at some point, you may change your gambling behaviour?	<input type="radio"/>								
How much did the ad make you feel that you did not want to gamble in the future?	<input type="radio"/>								
To what extent did the ad make you feel motivated to call gambling help and support center ?	<input type="radio"/>								

Q9.3 Please indicate the strength of your agreement with the following statements on a scale from 1 = Not at all to 9 = Very much.

	Not at all								Very much
	1	2	3	4	5	6	7	8	9
What was the overall attention you had with the advertisement?	<input type="radio"/>								
How engaging it was for you to process the advertisement ?	<input type="radio"/>								
How much attention you paid to process the advertisement ?	<input type="radio"/>								
How involving it was for you to process the advertisement?	<input type="radio"/>								

Q9.4 Please indicate how responsible/accountable you believe people are for their own gambling behaviour where 1 = Not at all and 9 = Totally.

	Not at all								Totally
	1	2	3	4	5	6	7	8	9
How responsible are you in protecting yourself from the potential risks associated with gambling?	<input type="radio"/>								
How responsible are you for the consequences of your gambling ?	<input type="radio"/>								
How strongly do you feel that it is your responsibility to seek help with gambling when needed ?	<input type="radio"/>								

Q9.5 How likely is it that in the future (e.g. next 3 months) you will:

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Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

	Definitely not 1	2	3	4	5	6	7	8	Definitely yes 9
Enroll in a gambling help and support program if one were available to you at minimal cost and easy access.	<input type="radio"/>								
Seek counseling/support to help you with gambling habits if needed.	<input type="radio"/>								
Ring to the designated gambling support center to learn more about services to help people with their gambling habit.	<input type="radio"/>								

Moderators: Tolerance of Negative Emotions/Tolerance for Ambiguity

Q10.2

Please enter a response on a scale of 1 to 9, with 1 = Strongly disagree and 9 = Strongly agree to indicate the extent to which you agree or disagree with each statement.

	Strongly disagree 1	2	3	4	5	6	7	8	Strongly agree 9
I'll do anything to avoid feeling distressed or upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can't handle feeling distressed or upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I feel distressed or upset, I must do something about it immediately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am ashamed of myself when I feel distressed or upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being distressed scares me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10.3 Please enter a response on a scale of 1 to 9, with 1 = Strongly disagree and 9 = Strongly agree to indicate the extent to which you agree or disagree with each statement.

	Strongly disagree 1	2	3	4	5	6	7	8	Strongly agree 9
I can't tolerate ambiguous situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it hard to make a decision when the outcome is uncertain.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to avoid problems which do not seem to have only one "best" solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy tackling problems which are complex with no clear answers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to avoid situations that are ambiguous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like it when the situations can be interpreted in more than one way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid situations that are complicated and not easily understood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel threatened when problems are not just 'black and white'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PGI

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Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Q11.1
The following questions are about how you have been feeling over past 12 month.

Please click on the number that best describes how have you been feeling in the past 12 month.

	Never									All the time
	1	2	3	4	5	6	7	8	9	
How often do you borrow money or sell anything to get money to gamble ?	<input type="radio"/>									
How often people criticised your betting, or tell you that you have a gambling problem ?	<input type="radio"/>									
How often do you feel guilty about your gambling ?	<input type="radio"/>									
How often does your gambling cause any financial problems for you or your family ?	<input type="radio"/>									
How often do you find that to get excited, you need to make ever larger bets ?	<input type="radio"/>									
How often do you feel stress and anxiety due to gambling ?	<input type="radio"/>									
How often do you gamble more than you could really afford?	<input type="radio"/>									
How often do you feel that you might have problem with gambling?	<input type="radio"/>									
How often do you gamble again, to try to win back losses?	<input type="radio"/>									

Info

Q12.1 There is a chance that thinking about problem gambling issues may make you feel uncomfortable or remind you of previous experiences. If you are experiencing distress, please contact the support sources listed at the bottom of this page. These services are free and confidential.

Please click the Next button below this table to submit your survey responses.

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.2: Main Data Collection - Web – based Qualtrics Survey Layout (Continued)

Qualtrics Survey Software

Gambling Help Services Directory Card

These services are free and confidential

ALL Divisions and Networks - Statewide Services		Riverland Division of GP - 08 8582
<p>Gambling Helpline 1800 060 757</p> <p>Telephone counselling and support for those affected by gambling, including family and friends</p> <ul style="list-style-type: none"> • Referral to Gambling Help Services • Written information posted upon request • Crisis management and referral • Relapse management <p>For interpreting please contact the Telephone Interpreter Service (TIS) on 131 450 and ask the interpreter to telephone the Gambling Helpline on 1800 060 757</p> <p>Alternatively, call the Gambling Helpline who will contact TIS to organise an interpreter</p>	<p>Relationships Australia 9 Kay Avenue, Bert, 5343 08 8542 4122 www.relationships.com.au</p> <p>Statewide Gambling Therapy Service Bert (contact via Bedford Park site) 08 8204 6982</p>	<p>Relationships Australia 9 Kay Avenue, Bert, 5343 08 8542 4122 www.relationships.com.au</p> <p>Statewide Gambling Therapy Service Bert (contact via Bedford Park site) 08 8204 6982</p>
<p>Offenders Aid Rehabilitation Service Head Office: Adelaide (but services provided throughout SA) Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm</p> <p>Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members</p>	<p>Offenders Aid Rehabilitation Service Head Office: Adelaide (but services provided throughout SA) Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm</p> <p>Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members</p>	<p>Eye Peninsula Division of GP - 08</p> <p>Ceduna Koombha Aboriginal Health Serv 1 Cyna Highway, Ceduna, 6690 08 8626 2500</p> <p>Statewide Gambling Therapy Service • Ceduna (contact via Bedford Park site) 08 8204 6982</p> <p>• Port Lincoln (contact via Salisbury site) 08 8182 4911</p> <p>UnitingCare Wesley Port Pirie to service the Eye Peninsula as of June 200 (contact via Port Pirie site) 08 8633 8600 www.uccpp.org.au</p>
<p>Overseas Chinese Association Head Office: Fintona (but services provided throughout SA) 110 Critchenden Road, Fintona, 5023 08 8446 1677 www.ocaproblemgambling.com</p> <p>Specialised gambling help service to the Chinese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Cantonese/Mandarin English</p>	<p>Overseas Chinese Association Head Office: Fintona (but services provided throughout SA) 110 Critchenden Road, Fintona, 5023 08 8446 1677 www.ocaproblemgambling.com</p> <p>Specialised gambling help service to the Chinese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Cantonese/Mandarin English</p>	<p>Limestone Coast Division of GP - 0</p> <p>Lifeline South East 5 Mark Street, Mt Gambier, 5290 08 8723 2299 http://users.bigpond.com/ll</p> <p>Statewide Gambling Therapy Service Mt Gambier (contact via Bedford Park site) 08 8204 6982</p>
<p>Vietnamese Community in Australia (SA) Head Office: Athol Park (but services provided throughout SA) 62 Athol Street, Athol Park, 5012 08 8447 8821</p> <p>Specialised gambling help service to the Vietnamese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Vietnamese English</p>	<p>Vietnamese Community in Australia (SA) Head Office: Athol Park (but services provided throughout SA) 62 Athol Street, Athol Park, 5012 08 8447 8821</p> <p>Specialised gambling help service to the Vietnamese community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Vietnamese English</p>	<p>Adelaide Northern Division of GP -</p> <p>Anglicare 9 Mary Street, Salisbury SA, 5108 08 8256 2170 www.anglicare-sa.org.au</p> <p>Families SA • 16 Langford Drive, Elizabeth, 5112 08 8207 9000 www.dfr.sa.gov.au • 16-18 Ann Street, Salisbury, 5108 08 8209 4900 www.dfr.sa.gov.au</p> <p>Statewide Gambling Therapy Service 208 John Street, Salisbury 5108 08 8182 4911</p> <p>Gamblers Anonymous Salvation Army Hall c/o Maxwell and Bridge Roads, Ingle Farm, E 08 8212 6933 - Group meetings Thursday E</p>
<p>Cambodian Service Head Office: Salisbury (but services provided throughout SA) 08 8256 2170</p> <p>Specialised gambling help service to the Cambodian community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE</p>	<p>Cambodian Service Head Office: Salisbury (but services provided throughout SA) 08 8256 2170</p> <p>Specialised gambling help service to the Cambodian community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE</p>	<p>Adelaide Hills Division of GP - 08 8</p> <p>Relationships Australia • Adelaide Hills Community Health Centre, Wellington Road, Mt Barker, 5251 08 8223 4566 www.relationships.com.au</p>
<p>PEACE Multicultural Service (Relationships Australia SA) Head Office: Hindmarsh (but services provided throughout SA) 45a Osmond Terrace, Hindmarsh, 5007 08 8246 8100 www.relationships.com.au</p> <p>Specialised gambling help service to the multicultural community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Greek, Arabic, Persian, Italian, Polish, Spanish, Filipino, French, various Sudanese languages, English and other languages</p>	<p>PEACE Multicultural Service (Relationships Australia SA) Head Office: Hindmarsh (but services provided throughout SA) 45a Osmond Terrace, Hindmarsh, 5007 08 8246 8100 www.relationships.com.au</p> <p>Specialised gambling help service to the multicultural community, including one on one assistance FREE INTERPRETING/TRANSLATING AVAILABLE Greek, Arabic, Persian, Italian, Polish, Spanish, Filipino, French, various Sudanese languages, English and other languages</p>	<p>Flinders and Far North Division of</p> <p>Aboriginal Family Support Services 47 Commercial Road, Port Augusta, 5700 08 8641 0907 www.afss.com.au</p> <p>Aboriginal Family Support Services PO Box 927, Coorabiddy, 5723 08 8672 3066 www.afss.com.au</p> <p>UnitingCare Wesley Port Pirie 60 Florence Street, Port Pirie SA, 5240 08 8633 8600 www.uccpp.org.au</p> <p>Statewide Gambling Therapy Service Port Pirie and Port Augusta (contact via Salt) 08 8182 4911</p> <p>Gamblers Anonymous Roxby Downs Catholic Church 40 Gregory Street, Roxby Downs, 5725 08 8212 6933 - Group meetings Wednesday</p>
<p>Statewide Gambling Therapy Service Refer to individual Divisions and Networks for contact details</p>	<p>Statewide Gambling Therapy Service Refer to individual Divisions and Networks for contact details</p>	<p>Beroosa Division of GP - 08 8562</p> <p>Anglicare via Salisbury Office 9 Mary Street, Salisbury, 5108 08 8256 2170 www.anglicare-sa.org.au</p>
GP Partners Adelaide - 08 8112 1100		Adelaide Westerns GP Network - 08 8244 3822
<p>Aboriginal Family Support Services 134 Waymouth Street, Adelaide, 5000 08 8212 1112 www.afss.com.au</p> <p>Specialised gambling help service to the Aboriginal community including one on one assistance</p>	<p>Aboriginal Family Support Services 134 Waymouth Street, Adelaide, 5000 08 8212 1112 www.afss.com.au</p> <p>Specialised gambling help service to the Aboriginal community including one on one assistance</p>	<p>Anglicare 164 Port Road, Hindmarsh, 5007 08 8244 3822</p> <p>Gambling counselling and financial counselling for people who have a gambling problem and/or family members</p>
<p>Offenders Aid Rehabilitation Service 231 Mayfield Street, Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm</p> <p>Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members</p>	<p>Offenders Aid Rehabilitation Service 231 Mayfield Street, Adelaide, 5000 08 8218 0700 cars.gov.au/services.htm</p> <p>Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members</p>	<p>Relationships Australia 55 Flutt Street, Adelaide, 5000 08 8223 4566 www.relationships.com.au</p> <p>Gamblers Anonymous 08 8212 6933</p> <ul style="list-style-type: none"> • UnitingCare Wesley Church Chapel Ground Floor, Pitt Street (entrance through Franklin St entrance) Adelaide, 5000. Group meetings Friday 12.30pm • Eastwood Community Centre, 95 Glen Osmond Road Eastwood, 5063 - Group meetings Tuesday 9pm • North Adelaide Baptist Church (near of Church) 146 Tynte Street, North Adelaide, 5006 - Group meetings Wednesday 7.30pm and Saturday 10.30am
<p>Relationships Australia 55 Flutt Street, Adelaide, 5000 08 8223 4566 www.relationships.com.au</p> <p>Provides a range of counselling assistance - gambling, personal, financial and relationship - to individuals, couples or families adversely affected by gambling</p>	<p>Relationships Australia 55 Flutt Street, Adelaide, 5000 08 8223 4566 www.relationships.com.au</p> <p>Provides a range of counselling assistance - gambling, personal, financial and relationship - to individuals, couples or families adversely affected by gambling</p>	<p>General Practice Network South - 08 8374 7000</p> <p>Relationships Australia • Diagonal Road, Oaklands Park (Westfield), 5046 08 8377 5400 After hours appointments available • For other services in the South and Flinders contact the Marton site on 08 8377 5400</p> <p>Families SA • 233 Sturt Road, Marion, 5043 08 8298 0800 www.dfr.sa.gov.au</p> <p>• Shop 10, The Hub Shopping Centre Hub Drive, Aberfoyle Park, 5159 08 8374 6133 www.dfr.sa.gov.au</p> <p>Offenders Aid Rehabilitation Service 87 Dyson Road, Christies Beach, 5105 08 8218 0700 cars.gov.au/services.htm</p> <p>Specialised gambling help service to people involved with the criminal justice system including one on one assistance and to family members</p>
<p>Gamblers Anonymous Park Home Baptist Church, 80 Hendrie Street (adjacent to car park) Park Home, 5043 08 8212 6933</p> <p>Voluntary fellowship of people who help each other to overcome a gambling problem by sharing experiences and providing mutual support. It is an abstinence-based group program modelled on the principles and 12 Step recovery goals of Alcoholics Anonymous</p>	<p>Gamblers Anonymous Park Home Baptist Church, 80 Hendrie Street (adjacent to car park) Park Home, 5043 08 8212 6933</p> <p>Voluntary fellowship of people who help each other to overcome a gambling problem by sharing experiences and providing mutual support. It is an abstinence-based group program modelled on the principles and 12 Step recovery goals of Alcoholics Anonymous</p>	<p>Pokies Anonymous Saint Francis of Assisi, c/o 26 O'Halloran and Dyson Roads, Christies Beach, 5105 08 8340 4262 - Group meetings Monday 1-3pm</p> <p>Pokies Anonymous is a self-help peer support organisation based on similar principles to Alcoholics Anonymous.</p>

<https://s.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=51pOB...>

Appendix 6.3: Respondents' Demographic and Socio-economic Characteristics

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	227	49.9	49.9	49.9
	Female	228	50.1	50.1	100.0
	Total	455	100.0	100.0	

Combined Annual Household Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than \$30,000	77	16.9	16.9	16.9
	\$30,000 – 39,999	58	12.7	12.7	29.7
	\$40,000 – 49,999	53	11.6	11.6	41.3
	\$50,000 – 59,999	55	12.1	12.1	53.4
	\$60,000 – 69,999	40	8.8	8.8	62.2
	\$70,000 – 79,999	29	6.4	6.4	68.6
	\$80,000 – 89,999	34	7.5	7.5	76.0
	\$90,000 – 99,999	31	6.8	6.8	82.9
	\$100,000 or more	78	17.1	17.1	100.0
Total	455	100.0	100.0		

Level of Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school or below	174	38.2	38.2	38.2
	Trade or vocational school	147	32.3	32.3	70.5
	Bachelor Degree	100	22.0	22.0	92.5
	Masters	31	6.8	6.8	99.3
	Ph.D.	3	.7	.7	100.0
	Total	455	100.0	100.0	

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White/Caucasian	385	84.6	84.6	84.6
	African American	1	.2	.2	84.8
	Hispanic	4	.9	.9	85.7
	Asian	39	8.6	8.6	94.3
	Native American	2	.4	.4	94.7
	Pacific Islander	3	.7	.7	95.4
	Other	21	4.6	4.6	100.0
	Total	455	100.0	100.0	

Appendix 6.4: Main Data Collection - Exploratory Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.851
Bartlett's Test of Sphericity	Approx. Chi-Square	6451.343
	df	990
	Sig.	.000

Communalities		Extraction
Determined		.643
Hopeful		.646
Eager		.625
Inspired		.760
Scared		.917
Fearful		.864
Afraid		.859
After seeing the ad, I thought about what it had to say.		.445
I thought seriously about how the information in the ad may apply to me personally.		.586
The information in the ad gave me a better/broader understanding of the potential issues related to gambling.		.473
I reflected about the messages in this ad, even though I may not agree with them.		.257
I tried to think about the importance of the information enclosed in the ad for my daily life.		.555
How much did the ad make you feel that, at some point, you may change your gambling		.763
How much did the ad make you feel that you did not want to gamble in the future?		.731
To what extent did the ad make you feel that you should try to seek professional assistance with gambling?		.806
To what extent did the ad make you feel motivated to call gambling help and support centre?		.847
How likely is it that in the future (e.g. next 3 months) you will:-Seek counselling/support to help you with gambling habits if needed.		.707
How likely is it that in the future (e.g. next 3 months) you will:-Enrol in a gambling help and support program if one were available to you at minimal cost and easy access.		.842
How likely is it that in the future (e.g. next 3 months) you will:-Ring to the designated gambling support centre to learn more about services to help people with their gambling		.887
I believe that the advised action to ring help and support centre is one of the options to address gambling concerns.		.385
I perceive that the advised action in the ad to seek professional help could solve gambling		.461
Calling to a helpline is an efficacious way to face problem gambling.		.375
I think those people who do seek help can avoid the potential problems with gambling.		.393
How much attention you paid to process the advertisement?		.767
How engaging it was for you to process the advertisement?		.778
What was the overall attention you had with the advertisement?		.803
How involving it was for you to process the advertisement?		.602
How responsible are you in protecting yourself from the potential risks associated with		.661
How strongly do you feel that it is your responsibility to seek help with gambling when		.574
How responsible are you for the consequences of your gambling?		.646
How accountable are people for the consequences of their gambling?		.413
How responsible are people for seeking professional help with gambling when needed?		.592
I can't handle feeling distressed or upset.		.576
I am ashamed of myself when I feel distressed of upset.		.502
Being distressed scares me.		.551
I'll do anything to avoid feeling distressed or upset.		.416
When I feel distressed or upset, I must do something about it immediately.		.283
I like it when the situations can be interpreted in more than one way.		.542
I enjoy tackling problems which are complex with no clear answers.		.373
TA_1_Reversed		.617
TA_3_Reversed		.662
TA_4_Reversed		.595
TA_7_Reversed		.480
TA_8_Reversed		.477
TA_5_Reversed		.634

Appendix 6.5.A: Detailed Descriptive Statistics of the Variables

Variables	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Determined	4.48	2.440	.019	.114	-1.079	.228
Hopeful	3.98	2.448	.297	.114	-1.074	.228
Eager	3.31	2.310	.687	.114	-.624	.228
Inspired	3.85	2.472	-.346	.114	-1.118	.228
Scared	4.37	2.708	.129	.114	-1.304	.228
Fearful	4.61	2.612	.024	.114	-1.237	.228
Afraid	4.43	2.661	.149	.114	-1.305	.228
After seeing the ad, I thought about what it had to say.	6.06	1.940	-.618	.114	-.074	.228
I thought seriously about how the information in the ad may apply to me personally.	4.95	2.364	-.190	.114	-.971	.228
The information in the ad gave me a better/broader understanding of the potential issues related to gambling.	5.91	2.017	-.516	.114	-.287	.228
I reflected about the messages in this ad, even though I may not agree with them.	5.96	1.882	-.401	.114	-.052	.228
I tried to think about the importance of the information enclosed in the ad for my daily life.	5.37	2.115	-.376	.114	-.485	.228
I think those people who do seek help can avoid the potential problems with gambling.	6.83	1.641	-.995	.114	1.458	.228
I believe that the advised action to ring help and support centre is one of the options to address gambling concerns.	6.98	1.653	-.906	.114	.716	.228
I perceive that the advised action in the ad to seek professional help could solve gambling problems.	6.54	1.735	-.752	.114	.472	.228
Calling to a helpline is an efficacious way to face problem gambling.	6.48	1.777	-.594	.114	.111	.228
How much did the ad make you feel that, at some point, you may change your gambling behaviour?	4.43	2.519	.129	.114	-1.140	.228
How much did the ad make you feel that you did not want to gamble in the future?	4.37	2.582	.135	.114	-1.196	.228
To what extent did the ad make you feel that you should try to seek professional assistance with gambling?	3.88	2.606	.383	.114	-1.189	.228
To what extent did the ad make you feel motivated to call gambling help and support centre?	3.82	2.610	.434	.114	-1.165	.228
How much attention you paid to process the advertisement?	6.56	1.815	-.709	.114	.308	.228
How engaging it was for you to process the advertisement?	6.02	1.954	-.590	.114	-.098	.228
What was the overall attention you had with the advertisement?	6.42	1.849	-.694	.114	.160	.228
How involving it was for you to process the advertisement?	5.81	2.087	-.553	.114	-.214	.228
How responsible are you in protecting yourself from the potential risks associated with gambling?	7.36	1.686	-1.205	.114	1.393	.228
How strongly do you feel that it is your responsibility to seek help with gambling when needed?	7.17	1.911	-1.327	.114	1.720	.228
How responsible are you for the consequences of your gambling?	7.59	1.704	-1.449	.114	1.962	.228
How likely is it that in the future (e.g. next 3 months) you will:- Seek counselling/support to help you with gambling habits if needed.	3.84	2.810	.461	.114	-1.274	.228
Enrol in a gambling help and support program if one were available to you at minimal cost and easy access.	3.39	2.637	.697	.114	-.938	.228
Ring to the designated gambling support centre to learn more about services to help people with their gambling habit.	3.52	2.641	.615	.114	-1.049	.228
I can't handle feeling distressed or upset.	4.94	2.300	.046	.114	-.936	.228
I am ashamed of myself when I feel distressed or upset.	4.42	2.487	.206	.114	-1.146	.228
Being distressed scares me.	5.34	2.282	-.244	.114	-.877	.228
I'll do anything to avoid feeling distressed or upset.	5.52	2.109	-.150	.114	-.617	.228
When I feel distressed or upset, I must do something about it immediately.	5.62	1.948	-.300	.114	-.261	.228
I enjoy tackling problems which are complex with no clear answers.	5.50	2.016	-.453	.114	-.302	.228
I like it when the situations can be interpreted in more than one way.	6.00	1.722	-.360	.114	.240	.228
I can't tolerate ambiguous situations (reverse-scored)(r-s).	4.79	1.893	.151	.114	-.151	.228
I try to avoid situations that are ambiguous (r-s).	4.71	1.956	.066	.114	-.338	.228
I feel threatened when problems are not just 'black and white' (r-s).	5.27	2.238	-.160	.114	-.826	.228
I avoid situations that are complicated and not easily understood (r-s)	5.04	1.976	-.008	.114	-.416	.228
I try to avoid problems which do not seem to have only one "best" solution' (r-s).	4.57	2.156	.327	.114	-.681	.228
I find it hard to make a decision when the outcome is uncertain (r- s).	5.00	2.109	.001	.114	-.735	.228

Appendix 6.5.B: Assessment of Data Normality

Variables	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Determined	.126	455	.000	.930	455	.000
Hopeful	.156	455	.000	.911	455	.000
Eager	.196	455	.000	.869	455	.000
Inspired	.167	455	.000	.898	455	.000
Scared	.159	455	.000	.898	455	.000
Fearful	.129	455	.000	.919	455	.000
Afraid	.153	455	.000	.909	455	.000
After seeing the ad, I thought about what it had to say.	.163	455	.000	.936	455	.000
I thought seriously about how the information in the ad may apply to me personally.	.146	455	.000	.940	455	.000
The information in the ad gave me a better/broader understanding of the potential issues related to gambling.	.135	455	.000	.944	455	.000
I reflected about the messages in this ad, even though I may not agree with them.	.133	455	.000	.950	455	.000
I tried to think about the importance of the information enclosed in the ad for my daily life.	.149	455	.000	.950	455	.000
I think those people who do seek help can avoid the potential problems with gambling.	.183	455	.000	.904	455	.000
I believe that the advised action to ring help and support centre is one of the options to address gambling concerns.	.173	455	.000	.904	455	.000
I perceive that the advised action in the ad to seek professional help could solve gambling problems.	.171	455	.000	.928	455	.000
Calling to a helpline is an efficacious way to face problem gambling.	.151	455	.000	.934	455	.000
How much did the ad make you feel that, at some point, you may change your gambling behaviour?	.125	455	.000	.927	455	.000
How much did the ad make you feel that you did not want to gamble in the future?	.151	455	.000	.914	455	.000
To what extent did the ad make you feel that you should try to seek professional assistance with gambling?	.187	455	.000	.883	455	.000
To what extent did the ad make you feel motivated to call gambling help and support centre?	.194	455	.000	.878	455	.000
How much attention you paid to process the advertisement?	.160	455	.000	.926	455	.000
How engaging it was for you to process the advertisement?	.158	455	.000	.939	455	.000
What was the overall attention you had with the advertisement?	.190	455	.000	.927	455	.000
How involving it was for you to process the advertisement?	.136	455	.000	.939	455	.000
How responsible are you in protecting yourself from the potential risks associated with gambling?	.205	455	.000	.851	455	.000
How strongly do you feel that it is your responsibility to seek help with gambling when needed?	.206	455	.000	.837	455	.000
How responsible are you for the consequences of your gambling?	.229	455	.000	.797	455	.000
How likely is it that in the future (e.g. next 3 months) you will:-Seek counselling/support to help you with gambling habits if needed.	.219	455	.000	.848	455	.000
How likely is it that in the future (e.g. next 3 months) you will:-Enrol in a gambling help and support program if one were available to you at minimal cost and easy access.	.235	455	.000	.823	455	.000
How likely is it that in the future (e.g. next 3 months) you will:-Ring to the designated gambling support centre to learn more about services to help people with their gambling habit.	.225	455	.000	.840	455	.000
I can't handle feeling distressed or upset.	.106	455	.000	.955	455	.000
I am ashamed of myself when I feel distressed or upset.	.136	455	.000	.929	455	.000
Being distressed scares me.	.115	455	.000	.949	455	.000
I'll do anything to avoid feeling distressed or upset.	.113	455	.000	.958	455	.000
When I feel distressed or upset, I must do something about it immediately.	.132	455	.000	.959	455	.000
I enjoy tackling problems which are complex with no clear answers.	.137	455	.000	.950	455	.000
I like it when the situations can be interpreted in more than one way.	.127	455	.000	.948	455	.000
I can't tolerate ambiguous situations (reverse-scored) (r-s).	.177	455	.000	.955	455	.000
I try to avoid situations that are ambiguous (r-s).	.143	455	.000	.961	455	.000
I feel threatened when problems are not just 'black and white'(r-s)	.112	455	.000	.954	455	.000
I avoid situations that are complicated and not easily understood (r-s)	.144	455	.000	.962	455	.000
I try to avoid problems which do not seem to have only one "best" solution' (r-s).	.129	455	.000	.953	455	.000
I find it hard to make a decision when the outcome is uncertain (r-s).	.098	455	.000	.964	455	.000

a. Lilliefors Significance Correction

Appendix 6.6: Main Data Collection - Wilcoxon Signed-Rank Test

Descriptive Statistics						
This ad makes me feel		N	Minimum	Maximum	Mean	Std. Deviation
Fear	Fear index	145	1.00	9.00	5.8460	2.16525
	Challenge index	145	1.00	8.00	2.8017	1.72625
	Valid N (listwise)	145				
Fear mixed with challenge	Fear index	228	1.00	9.00	4.3494	2.33935
	Challenge index	228	1.00	8.50	4.1941	1.86653
	Valid N (listwise)	228				
Challenge	Fear index	82	1.00	9.00	2.3618	1.97321
	Challenge index	82	1.25	9.00	5.0610	2.06438
	Valid N (listwise)	82				

Ranks					
This ad makes me feel			N	Mean Rank	Sum of Ranks
Fear	Challenge index – Fear index	Negative Ranks	132 ^a	75.14	9919.00
		Positive Ranks	10 ^b	23.40	234.00
		Ties	3 ^c		
		Total	145		
Fear mixed with challenge	Challenge index – Fear index	Negative Ranks	110 ^a	111.14	12225.00
		Positive Ranks	102 ^b	101.50	10353.00
		Ties	16 ^c		
		Total	228		
Challenge	Challenge index – Fear index	Negative Ranks	4 ^a	11.38	45.50
		Positive Ranks	77 ^b	42.54	3275.50
		Ties	1 ^c		
		Total	82		

- a. Challenge index < Fear index
b. Challenge index > Fear index
c. Challenge index = Fear index

Wilcoxon Signed Ranks Test		
This ad makes me feel:		Challenge index – Fear index
Fear	Z	-9.862 ^a
	Asymp. Sig. (2-tailed)	.000
Fear mixed with challenge	Z	-1.047 ^a
	Asymp. Sig. (2-tailed)	.295
Challenge	Z	-7.605 ^b
	Asymp. Sig. (2-tailed)	.000

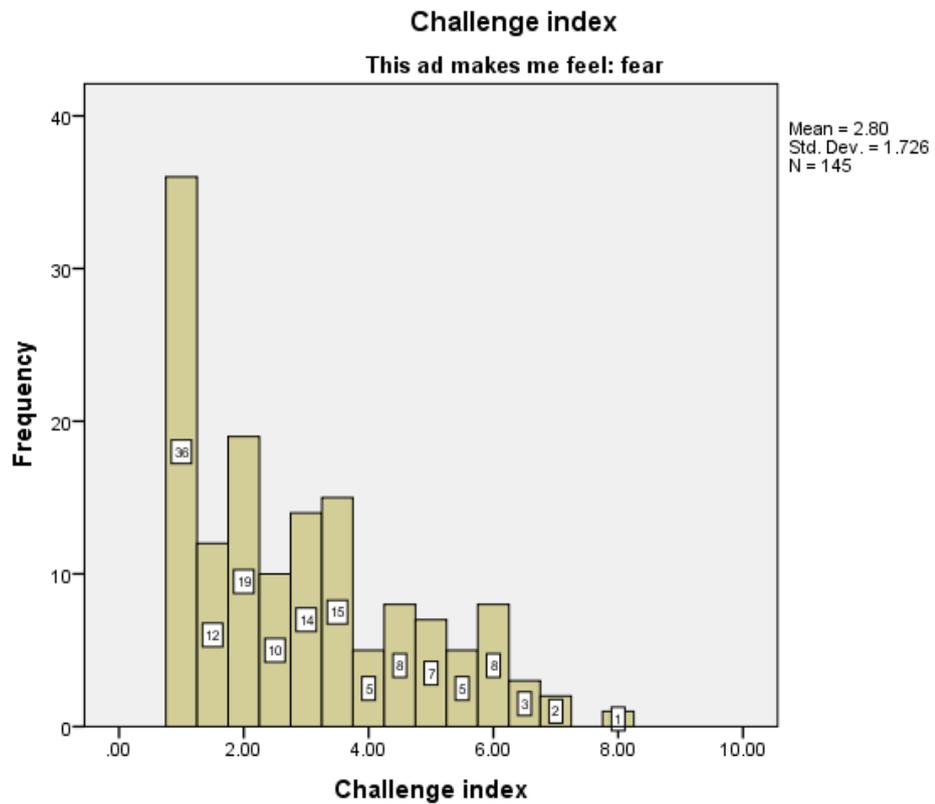
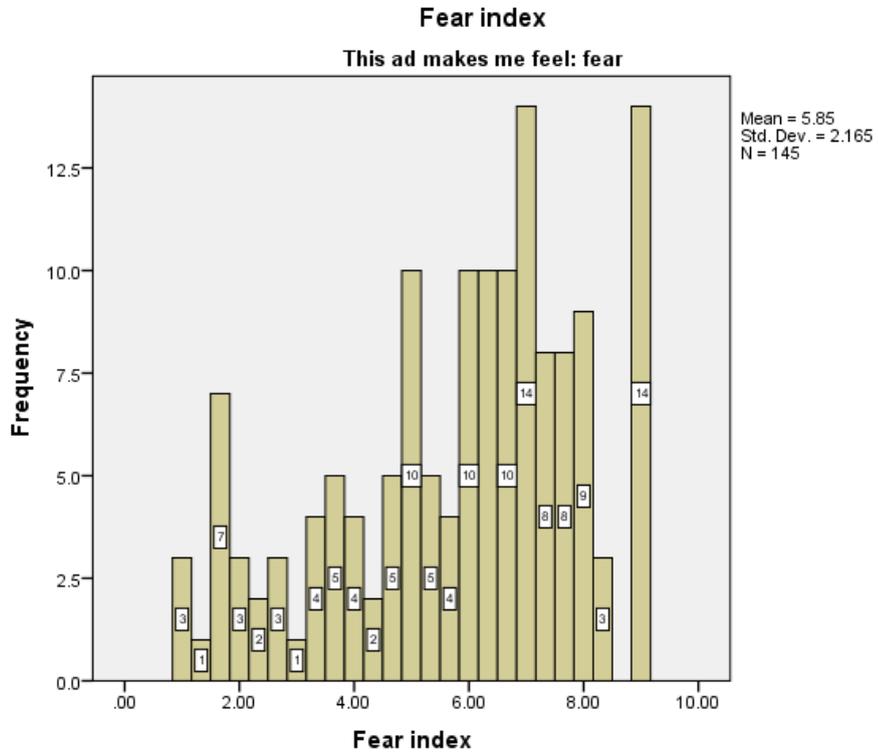
- a. Based on positive ranks.
b. Based on negative ranks.

Appendix 6.7.: Ambivalence Index - Results of One-way Between Groups ANOVA

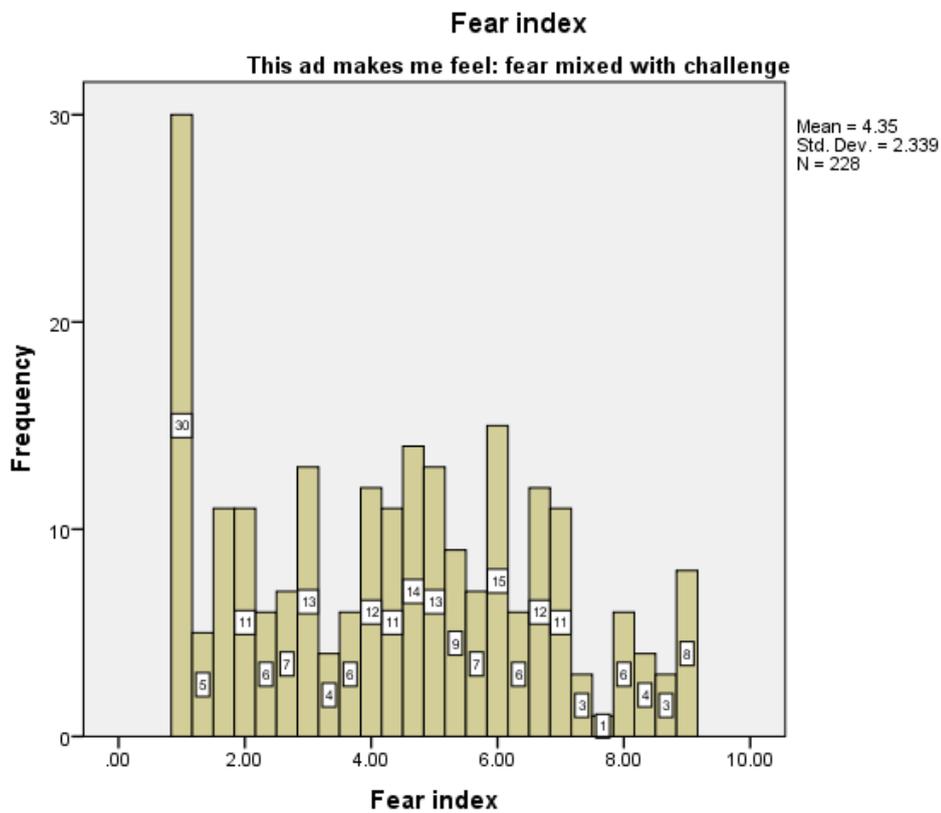
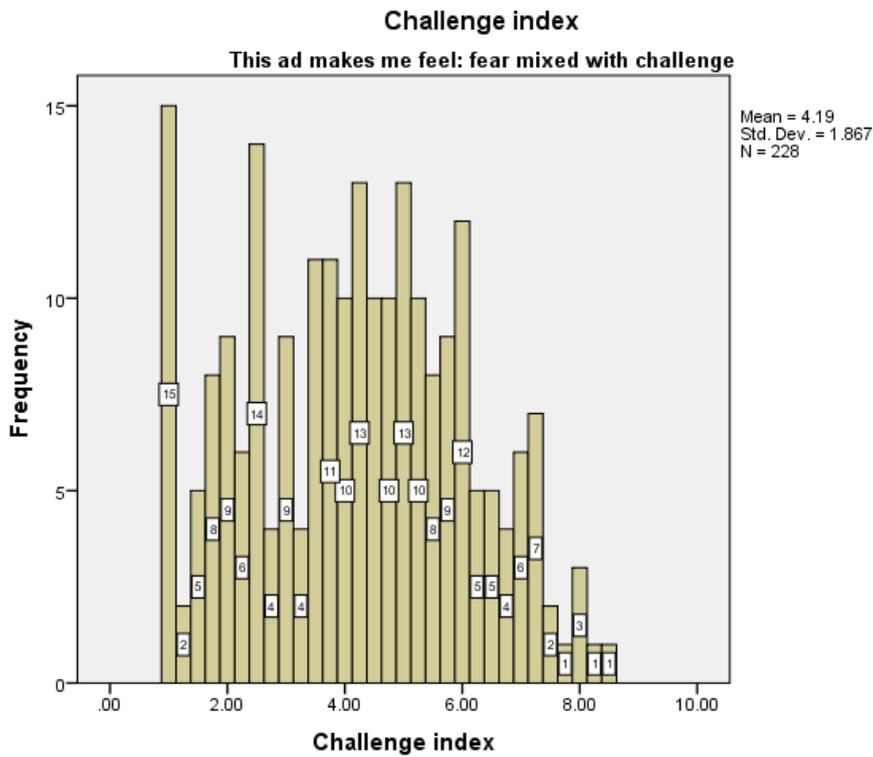
Ambivalence Index								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval		Min	Max
					Lower bound	Upper Bound		
Mostly negative emotions: Scared, Afraid, Fearful	145	2.34	4.617	.3834	1.5840	3.0998	-6.00	15.01
A comparable mixture of both positive and negative emotions	228	4.94	4.347	.2879	4.3826	5.5172	-6.00	17.00
Mostly positive emotions: Inspired, Determined, Hopeful, Eager	82	1.95	5.213	.5756	.8103	3.1012	-6.00	18.50
Total	455	3.57	4.792	.2246	3.1377	4.0207	-6.00	18.50
Test of Homogeneity of Variances								
Ambivalence Index								
Levene Statistic			df1	df2	Sig.			
.326			2	452	.722			
ANOVA								
Ambivalence Index								
	Sum of Squares		df	Mean Square	F	Sig.		
Between Groups	866.473		2	433.236	20.481	.000		
Within Groups	9561.143		452	21.153				
Total	10427.616		454					
Multiple Comparisons Tukey HSD								
Dependent Variable: Ambivalence Index								
(I) This ad makes me feel	(J) This ad makes me feel	Mean Difference (I-J)	Std. Error	Sig.	95% confidence Interval			
					lower bound	upper bound		
Mostly negative emotions: Scared, Afraid, Fearful (Fear)	A comparable mixture of both positive and negative emotions	-2.60798*	.48853	.000	-3.7567	-1.4592		
	Mostly positive emotions (Challenge)	.38620	.63549	.816	-1.1081	1.8805		
A comparable mixture of both positive and negative emotions (e.g. Scared and Hopeful)	Mostly negative emotions (Fear)	2.60798*	.48853	.000	1.4592	3.7567		
	Mostly positive emotions(Challenge)	2.99418*	.59223	.000	1.6016	4.3868		
Mostly positive emotions: Inspired, Determined, Hopeful, Eager(Challenge)	Mostly negative emotions (Fear)	-.38620	.63549	.816	-1.8805	1.1081		
	A comparable mixture of both positive and negative emotions	-2.99418*	.59223	.000	-4.3868	-1.6016		

*. The mean difference is significant at the 0.05 level.

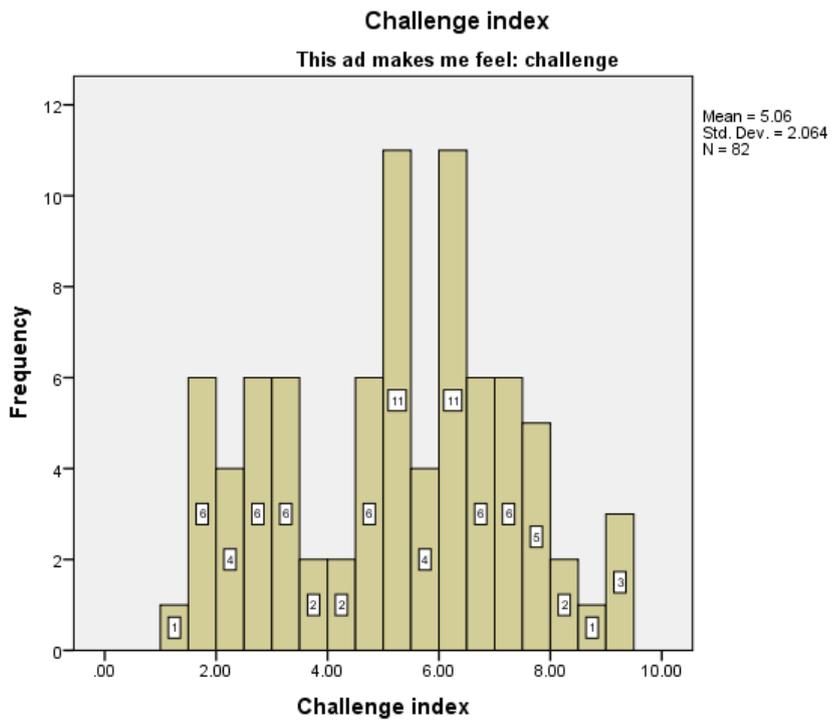
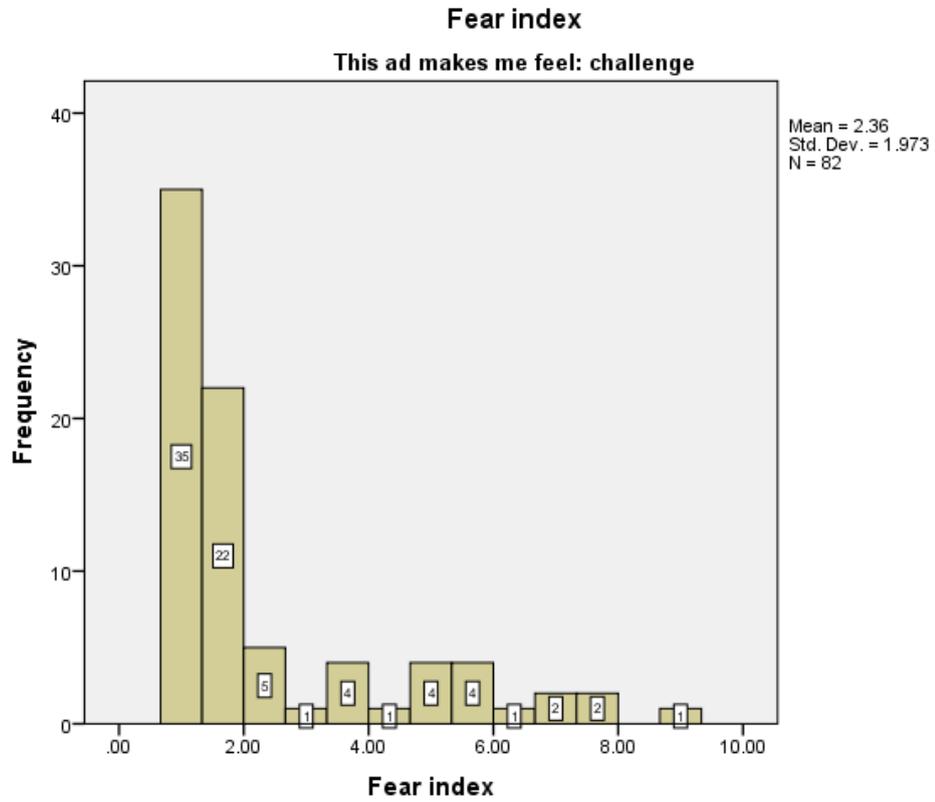
Appendix 6.8.A: Main Data Collection - Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Fear Appeal)



Appendix 6.8.B: Main Data Collection - Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Fear Mixed with Challenge Appeal)



Appendix 6.8.C: Main Data Collection - Frequencies and Histograms of Fear and Challenge Indices Split by Appeal Type (Challenge Appeal)



Appendix 7.1.A: Confirmatory Factor Analysis: Convergent Validity Issues

	CH	ATT	BI	F	SMIP/DP	AVE	CR
CH	0.779					0.607	0.861
ATT	0.376	0.866				0.749	0.923
BI	0.387	0.720	0.904			0.817	0.930
F	0.098	0.264	0.211	0.919		0.844	0.942
SMIP/DP	0.356	0.697	0.476	0.278	0.608	0.369	0.739

Notes: Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
 The square root of AVE for SMIP/DP is less than the absolute value of correlations with another factor and marked in red;
 AVE value below acceptable threshold is marked in bold red;
 N=445.

Appendix 7.1.B: Confirmatory Factor Analysis - Convergent Validity Issues

	CH	ATT	BI	F	SMIP/DP	AVE	CR
CH	0.779					0.607	0.861
ATT	0.377	0.867				0.751	0.923
BI	0.387	0.720	0.904			0.817	0.930
F	0.098	0.264	0.211	0.918		0.843	0.942
SMIP/DP	0.330	0.714	0.507	0.243	0.659	0.434	0.692

Notes: Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
 The square root of AVE for SMIP/DP is less than the absolute value of correlations with another factor and marked in red;
 AVE value below acceptable threshold is marked in bold red;
 N=445.

Appendix 7.1.C: Confirmatory Factor Analysis – Convergent Validity Issues

	CH	ATT	BI	F	SMIP/DP Parcelled	AVE	CR
CH	0.779					0.607	0.861
ATT	0.376	0.866				0.749	0.923
BI	0.387	0.719	0.904			0.817	0.930
F	0.098	0.264	0.211	0.919		0.844	0.942
SMIP/DP Parcelled	0.337	0.693	0.462	0.275	0.768	0.590	0.742

Notes: Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
 N=455.

Appendix 7.2 Multivariate Normality Test

Multivariate Normality Test			
Two-sided multivariate skew test of fit			
Sample value	Mean	Standard Deviation	<i>P value</i>
27.939	10.700	0.543	0.0000
Two-sided multivariate kurtosis test of fit			
363.661	286.800	2.256	0.0000

Note: N=445.

Appendix 7.3: Standardised Factor Loadings, Average Variance Extracted (AVE), Reliability Estimates (CR) of Latent Constructs in SEM and LMS Models

Standardised Factor Loadings, Average Variance Extracted (AVE), Reliability Estimates (CR) of Latent Constructs in Various Models						
Latent variables	Indicator variables	Standardised Regression weights (β)	<i>t value</i>	<i>p</i>	AVE	CR
SEM Model 1 (Measurement Portion) ¹						
Fear (F)	Scared	0.933	49.027	0.000	0.794	0.920
	Fearful	0.882	32.827	0.000		
	Afraid	0.857	27.819	0.000		
Challenge (CH)	Determined	0.691	12.976	0.000	0.543	0.826
	Hopeful	0.699	14.898	0.000		
	Eager	0.756	17.147	0.000		
	Inspired	0.797	21.958	0.000		
Systematic mode and depth of information processing (SMIP/DP)	SMIP Parcel ^a	0.786	13.780	0.000	0.649	0.787
	DP Parcel ^b	0.825	17.803	0.000		
Attitude towards the advertisement (AT)	How much did the ad make you feel that, at some point, you may change your gambling behaviour? (AT1)	0.888	33.390	0.000	0.780	0.934
	How much did the ad make you feel that you did not want to gamble in the future? (AT2)	0.864	28.568	0.000		
	To what extent did the ad make you feel that you should try to seek professional assistance with gambling? (AT3)	0.907	49.364	0.000		
	To what extent did the ad make you feel motivated to call gambling help and support centre? (AT4)	0.873	40.879	0.000		
Help-seeking behavioural intentions (BI)	How likely is it that in the future (e.g. next 3 months) you will:- Seek counselling/support to help you with gambling habits if needed (BI1)	0.855	26.964	0.000	0.785	0.916
	Enrol in a gambling help and support program if one were available to you at minimal cost and easy access (BI2)	0.945	65.785	0.000		
	Ring to the designated gambling support centre to learn more about services to help people with their gambling habit (BI3)	0.941	46.158	0.000		
SEM Model 2 (Measurement Portion) ²						
F	Scared	0.915	32.542	0.000	0.794	0.921
	Fearful	0.901	26.093	0.000		
	Afraid	0.857	15.500	0.000		
SMIP/DP	DP Parcel ^a	0.780	1.050	0.000	0.591	0.743
	SMIP Parcel ^b	0.758	1.056	0.000		
AT	AT1	0.878	22.652	0.000	0.692	0.900
	AT2	0.803	18.052	0.000		
	AT3	0.807	19.795	0.000		
	AT4	0.838	22.103	0.000		

BI	BI1	0.799	12.227	0.000	0.810	0.927
	BI2	0.941	35.546	0.000		
	BI3	0.952	38.434	0.000		
SEM Model 3 (Measurement Portion) ³						
CH	Determined	0.759	10.735	0.000	0.528	0.815
	Hopeful	0.645	7.081	0.000		
	Eager	0.856	10.244	0.000		
	Inspired	0.621	6.618	0.000		
SMIP/DP	DP Parcel ^a	0.621	4.186	0.000	0.415	0.587
	SMIP Parcel ^b	0.667	5.857	0.000		
AT	AT1	0.879	20.069	0.000	0.788	0.937
	AT2	0.859	21.350	0.000		
	AT3	0.911	26.152	0.000		
	AT4	0.900	25.927	0.000		
BI	BI1	0.733	9.181	0.000	0.763	0.905
	BI2	0.956	29.329	0.000		
	BI3	0.916	19.053	0.000		
LMS Model 1 (Measurement Portion) ⁴						
F	Scared	0.933	49.185	0.000	0.794	0.920
	Fearful	0.882	32.717	0.000		
	Afraid	0.857	27.781	0.000		
CH	Determined	0.687	12.759	0.000	0.543	0.826
	Hopeful	0.698	14.918	0.000		
	Eager	0.761	17.163	0.000		
	Inspired	0.796	21.692	0.000		
SMIP/DP	SMIP Parcel ^a	0.788	17.589	0.000	0.649	0.787
	DP Parcel ^b	0.823	13.283	0.000		
AT	AT1	0.888	33.291	0.000	0.780	0.934
	AT2	0.864	28.420	0.000		
	AT3	0.907	49.370	0.000		
	AT4	0.874	40.806	0.000		
BI	BI1	0.855	46.490	0.000	0.837	0.939
	BI2	0.945	65.803	0.000		
	BI3	0.942	46.490	0.000		
Tolerance of ambiguity (TA)	I can't tolerate ambiguous situations (reverse-scored) (TA1)	0.689	11.273	0.000	0.534	0.851
	I try to avoid situations that are ambiguous (reverse-scored) (TA2)	0.766	20.068	0.000		
	I feel threatened when problems are not just 'black and white' (reverse-scored) (TA3)	0.699	13.752	0.000		
	I avoid situations that are complicated and not easily understood (reverse-scored) (TA4)	0.781	21.139	0.000		
	I try to avoid problems which do not seem to have only one "best" solution (reverse-scored) (TA5)	0.715	12.498	0.000		
LMS Model 2 (Measurement Portion) ⁵						
F	Scared	0.915	33.013	0.000	0.794	0.921
	Fearful	0.900	25.885	0.000		
	Afraid	0.858	15.610	0.000		
SMIP/DP	DP Parcel ^a	0.797	12.055	0.000	0.593	0.744
	SMIP Parcel ^b	0.742	11.309	0.000		
ATT	AT1	0.877	22.364	0.000	0.691	0.900
	AT2	0.804	18.032	0.000		
	AT3	0.806	19.729	0.000		
	AT4	0.837	22.053	0.000		
BI	BI1	0.799	12.195	0.000	0.810	0.927
	BI2	0.941	35.185	0.000		
	BI3	0.952	38.332	0.000		
Tolerance of negative emotions	I can't handle feeling distressed or upset (TNE1).	0.694	8.742	0.000	0.420	0.740
	I am ashamed of myself when I feel distressed or upset (TNE2).	0.603	6.408	0.000		

(TNE)	Being distressed scares me (TNE3). I'll do anything to avoid feeling distressed or upset (TNE4).	0.753 0.518	8.388 5.069	0.000 0.000		
LMS Model 3 (Measurement Portion) ⁶						
F	Scared Fearful Afraid	0.944 0.914 0.896	87.736 59.994 46.398	0.000 0.000 0.000	0.843	0.942
CH	Determined Hopeful Eager Inspired	0.753 0.791 0.745 0.825	24.484 30.077 22.839 34.635	0.000 0.000 0.000 0.000	0.607	0.861
SMIP	DP Parcel ^a SMIP Parcel ^b	0.730 0.808	16.162 24.192	0.000 0.000	0.593	0.744
AT	AT1 AT2 AT3 AT4	0.880 0.836 0.878 0.869	46.087 35.868 51.623 50.478	0.000 0.000 0.000 0.000	0.750	0.923
BI	BI1 BI2 BI3	0.818 0.949 0.938	27.656 83.256 62.213	0.000 0.000 0.000	0.817	0.930
Involvement with the advertisement (INV)	How much attention you paid to process the advertisement? (INV1) How engaging it was for you to process the advertisement? (INV2) What was the overall attention you had with the advertisement? (INV3) How involving it was for you to process the advertisement? (INV4)	0.857 0.868 0.850 0.802	43.406 44.063 35.267 23.422	0.000 0.000 0.000 0.000	0.713	0.909
Self- accountability (SA)	How responsible are you in protecting yourself from the potential risks associated with gambling? (SA1) How strongly do you feel that it is your responsibility to seek help with gambling when needed? (SA2) How responsible are you for the consequences of your gambling? (SA3).	0.754 0.617 0.805	17.055 10.769 18.359	0.000 0.000 0.000	0.532	0.771
Response efficacy (RE)	I believe that the advised action to ring help and support centre is one of the options to address gambling concerns (RE1). I perceive that the advised action in the ad to seek professional help could solve gambling problems (RE2) Calling to a helpline is an efficacious way to face problem gambling (RE3)	0.631 0.673 0.696	11.648 13.144 12.911	0.000 0.000 0.000	0.445	0.706

Notes: ^a – SMIP Parcel formed by item-parcelling technique (described in chapter seven);

^b - DP Parcel formed by item-parcelling technique (described in chapter seven);

¹ – Model fit: MLR $\chi^2 = 145.309$, $df = 93$, $p = 0.0004$, RMSEA = 0.050 (90% CI: 0.033; 0.065), close-test p value = 0.497, CFI = 0.976, TLI = 0.969 and SRMR = 0.040 (N=228);

² - Model fit: MLR $\chi^2 = 79.235$, $df = 47$, $p = 0.0023$, RMSEA = 0.069 (90% CI: 0.041; 0.094), close-test p value = 0.120, CFI = 0.964, TLI = 0.950 and SRMR = 0.045 (N=145);

³ - Model fit: MLR $\chi^2 = 75.583$, $df = 57$, $p = 0.0503$, RMSEA = 0.063 (90% CI: 0.0032; 0.075), close-test p value = 0.338, CFI = 0.963, TLI = 0.952 and SRMR = 0.048 (N=82);

⁴ – Model fit: MLR $\chi^2 = 246.975$, $df = 173$, $p = 0.0002$, RMSEA = 0.043 (90% CI: 0.030; 0.055), close-test p value = 0.816, CFI = 0.971, TLI = 0.965 and SRMR = 0.048 (N=228);

⁵ - Model fit: MLR $\chi^2 = 133.504$, $df = 93$, $p = 0.0038$, RMSEA = 0.055 (90% CI: 0.000; 0.098), close-test p value = 0.279, CFI = 0.965, TLI = 0.952 and SRMR = 0.054 (N=145);

⁶ - Model fit: MLR $\chi^2 = 485.679$, $df = 270$, $p = 0.0000$, RMSEA = 0.042 (90% CI: 0.036; 0.048), close-test p value = 0.988, CFI = 0.964, TLI = 0.957 and SRMR = 0.047 (N=455);

CR values less than 0.70 and AVE values less than 0.50 are marked in red.

Appendix 7.4.A: Discriminant Validity of Latent Constructs in SEM Model 1

Discriminant Validity of Latent Constructs in SEM Model 1					
	CH	AT	BI	F	SMIP/DP
CH	0.737				
AT	0.406	0.883			
BI	0.365	0.764	0.886		
F	0.395	0.316	0.279	0.891	
SMIP/DP	0.279	0.631	0.394	0.315	0.806

Notes:

Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
N=228.

Appendix 7.4 B: Discriminant Validity of Latent Constructs in SEM Model 2

Discriminant Validity of Latent Constructs in SEM Model 2				
	BI	SMIP/DP	AT	F
BI	0.900			
SMIP/DP	0.505	0.769		
AT	0.672	0.749	0.832	
F	0.297	0.337	0.276	0.891

Notes:

Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
N=145.

Appendix 7.4 C: Discriminant Validity of Latent Constructs in SEM Model 3

Discriminant Validity of Latent Constructs in SEM Model 3				
	SMIP/DP	AT	BI	CH
SMIP/DP	0.644			
AT	0.751	0.887		
BI	0.612	0.669	0.874	
CH	0.586	0.314	0.351	0.726

Notes:

Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
The square root of AVE for SMIP is less than one, the absolute value of correlations with another factor and marked in red;
N=82.

Appendix 7.4 D: Discriminant Validity of Latent Constructs in LMS Model 1

Discriminant Validity of Latent Constructs in LMS Model 1						
	F	AT	BI	CH	TA	SMIP/DP
F	0.891					
AT	0.316	0.883				
BI	0.279	0.764	0.915			
CH	0.395	0.406	0.367	0.737		
TA	-0.154	-0.248	-0.274	-0.233	0.731	
SMIP/DP	0.315	0.631	0.394	0.279	-0.156	0.806

Notes: Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
N=228.

Appendix 7.4 E: Discriminant Validity of Latent Constructs in LMS Model 2

Discriminant Validity of Latent Constructs in LMS Model 2					
	TNE	AT	BI	F	SMIP/DP
TNE	0.648				
AT	0.242	0.832			
BI	0.148	0.672	0.900		
F	0.219	0.277	0.297	0.891	
SMIP/DP	0.347	0.749	0.508	0.326	0.770

Notes: Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
N=145.

Appendix 7.4 F: Discriminant Validity of Latent Constructs in LMS Model 3

Discriminant Validity of Latent Constructs in LMS Model 3								
	BI	AT	F	CH	SA	SMIP/DP	RE	INV
BI	0.904							
AT	0.764	0.866						
F	0.211	0.264	0.918					
CH	0.386	0.376	0.098	0.779				
SA	-0.091	-0.108	-0.016	-0.081	0.730			
SMIP/DP	0.394	0.631	0.284	0.348	0.100	0.770		
RE	-0.274	0.105	0.031	0.068	0.526	0.491	0.667	
INV	0.274	0.501	0.264	0.207	0.244	0.684	0.445	0.845

Notes:
Diagonals (in bold) represent square root of AVE while off diagonals represent correlations;
N=445.

Appendix 7.5: Measurement and Structural Portions of SEM Model 1

Measurement and Structural Portions of SEM Model 1					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.933	-	-
	Fearful	0.925	0.882	23.443	0.000
	Afraid	0.923	0.857	21.566	0.000
Challenge (CH)	Determined	1.000 ¹	0.702	-	-
	Hopeful	0.979	0.697	10.363	0.000
	Eager	1.060	0.750	8.949	0.000
	Inspired	1.175	0.795	9.328	0.000
SMIP/DP	SMIP	1.000 ¹	0.810	-	-
	Parcel DP Parcel	0.839	0.783	9.618	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.891	-	-
	AT2	0.991	0.863	16.907	0.000
	AT3	1.045	0.909	20.828	0.000
	AT4	1.019	0.873	18.111	0.000
Help- seeking behavioural intention (BI)	BI1	1.000 ¹	0.854	-	-
	BI2	1.038	0.944	23.079	0.000
	BI3	1.046	0.940	21.424	0.000
Paths					
Fear → SMIP/DP		0.150	0.253	3.016	0.003
Challenge → SMIP/DP		0.204	0.234	2.672	0.008
Fear → BI		0.030	0.030	0.472	0.637
Challenge → BI		0.109	0.074	1.202	0.221
SMIP/DP → AT		1.034	0.646	11.025	0.000
AT → BI		0.773	0.728	14.371	0.000

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value not calculated;

Non-significant paths are marked in red;

N=228.

Appendix 7.6: Measurement and Structural Portions of SEM Model 2

Measurement and Structural Portions of SEM Model 2					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.915	-	-
	Fearful	0.922	0.901	18.618	0.000
	Afraid	0.867	0.857	12.883	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.777	-	-
	SMIP Parcel	0.839	0.759	9.618	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.878	-	-
	AT2	0.979	0.803	12.763	0.000
	AT3	0.947	0.807	12.122	0.000
	AT4	0.955	0.838	11.982	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	0.799	-	-
	BI2	1.106	0.941	12.151	0.000
	BI3	1.140	0.952	12.524	0.000
Paths					
Fear → SMIP/DP		0.225	0.346	3.663	0.000
Fear → BI		0.118	0.123	1.714	0.087
SMIP/DP → AT		1.151	0.751	12.171	0.000
AT → BI		0.614	0.637	8.731	0.000

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant path is marked in red;

N=145.

Appendix 7.7: Measurement and Structural Portions of SEM Model 3

Measurement and Structural Portions of SEM Model 3					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Challenge (Ch)	Determined	1.000 ¹	0.757	-	-
	Hopeful	0.887	0.648	5.454	0.000
	Eager	1.208	0.854	5.554	0.000
	Inspired	0.813	0.629	5.239	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.660	-	-
	SMIP Parcel	0.839	0.670	9.618	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.879	-	-
	AT2	0.916	0.859	11.305	0.000
	AT3	1.086	0.911	14.042	0.000
	AT4	1.077	0.899	12.327	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	0.734	-	-
	BI2	1.250	0.960	9.035	0.000
	BI3	1.151	0.913	9.127	0.000
Paths					
Challenge → SMIP/DP		0.328	0.518	3.966	0.000
Challenge → BI		0.173	0.153	1.321	0.187
SMIP/DP → AT		1.357	0.717	5.698	0.000
AT → BI		0.584	0.618	5.519	0.000

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant path is marked in red;

N=82.

Appendix 7.7.A: Estimated Correlation Matrix for the Latent Variables in SEM Model 3

Estimated Correlation Matrix for the Latent Variables in SEM Model 3				
	CH	AT	BI	SMIP/DP
CH	1.000			
AT	0.372	1.000		
BI	0.382	0.675	1.000	
SMIP/DP	0.518	0.717	0.523	1.000

Note: N=82

Appendix 7.8: Invariance Testing of Configural, Metric and Scalar Measurement Models

Invariance Testing of Configural, Metric and Scalar Measurement Models					
Model	Number of parameters	MLR Chi-square	df	<i>p</i> -value	Scaling correction factor for MLR
Configural ^a	90	136.401	72	0.0000	1.1363
Metric ^b	78	143.635	84	0.0001	1.1159
Scalar ^c	66	168.866	96	0.0000	1.1025

Notes:

^aRMSEA = 0.077 (90% CI: 0.057; 0.096), CFI = 0.968, TLI = 0.953, SRMR = 0.034;

^bRMSEA = 0.071 (90% CI: 0.053; 0.088), CFI = 0.964, TLI = 0.960, SRMR = 0.042;

^cRMSEA = 0.068 (90% CI: 0.049; 0.087), CFI = 0.971, TLI = 0.962, SRMR = 0.038;

Fear mixed with challenge appeal (N=228);

Fear appeal (N=145);

Challenge appeal (N=82).

Appendix 7.9: Comparing Indirect Impact of Fear Mixed with Challenge, Fear and Challenge Appeals on BI: Measurement and Structural Portions

Comparing Indirect Impact of Fear Mixed with Challenge, Fear and Challenge Appeals on BI: Measurement and Structural Portions				
Measurement Part				
SEM Model 1 (Fear mixed with challenge appeals)				
Latent variables	Indicator Variables	Standardised regression weights (β)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	0.927	51.879	0.000
	Fearful	0.882	37.196	0.000
	Afraid	0.864	34.737	0.000
Challenge (CH)	Determined	0.733	20.298	0.000
	Hopeful	0.742	22.259	0.000
	Eager	0.704	16.735	0.000
	Inspired	0.763	22.430	0.000
SMIP/DP	DP Parcel	0.807	19.591	0.000
	SMIP Parcel	0.784	16.605	0.000
Attitude towards the advertisement (AT)	AT1	0.891	37.595	0.000
	AT2	0.859	30.052	0.000
	AT3	0.908	51.258	0.000
	AT4	0.875	43.340	0.000
Help-seeking behavioural intention (BI)	BI1	0.847	26.728	0.000
	BI2	0.947	72.047	0.000
	BI3	0.939	48.790	0.000
SEM Model 2 (Fear appeals)				
Fear (F)	Scared	0.904	32.111	0.000
	Fearful	0.897	27.982	0.000
	Afraid	0.874	20.889	0.000
SMIP/DP	DP Parcel	0.763	14.365	0.000
	SMIP Parcel	0.763	14.975	0.000
Attitude towards the advertisement (AT)	AT1	0.864	25.799	0.000
	AT2	0.788	19.290	0.000
	AT3	0.826	26.264	0.000
	AT4	0.846	27.120	0.000
Help-seeking behavioural intention (BI)	BI1	0.809	16.023	0.000
	BI2	0.947	40.073	0.000
	BI3	0.943	39.530	0.000
SEM Model 3 (Challenge appeals)				
Challenge (CH)	Determined	0.768	15.228	0.000
	Hopeful	0.714	12.837	0.000
	Eager	0.707	10.140	0.000
	Inspired	0.728	13.204	0.000
SMIP/DP	DP Parcel	0.630	7.345	0.000
	SMIP Parcel	0.689	6.893	0.000
Attitude towards the advertisement	AT1	0.885	25.737	0.000
	AT2	0.874	29.308	0.000

(AT)	AT3	0.896	25.787	0.000
	AT4	0.881	26.730	0.000
Help-seeking behavioural intention (BI)	BI1	0.768	14.083	0.000
	BI2	0.943	34.164	0.000
	BI3	0.926	24.424	0.000
Structural Part with Paths Coefficients				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
SEM Model 1 (Fear mixed with challenge appeals)				
Fear → SMIP/DP	0.153	0.256	3.102	0.002
Challenge → SMIP/DP	0.190	0.234	2.663	0.008
Fear → BI	0.036	0.036	0.569	0.569
Challenge → BI	0.077	0.057	0.963	0.336
SMIP/DP → AT	1.044	0.646	11.068	0.000
AT → BI	0.755	0.732	14.698	0.000
SEM Model 2 (Fear appeals)				
Fear → SMIP/DP	0.236	0.357	4.103	0.000
Fear → BI	0.128	0.124	1.743	0.081
SMIP/DP → AT	1.143	0.753	12.293	0.000
AT → BI	0.658	0.637	8.642	0.000
SEM Model 3 (Challenge appeals)				
Challenge → SMIP/DP	0.312	0.532	4.515	0.000
Challenge → BI	0.191	0.155	1.279	0.201
SMIP/DP → AT	1.461	0.724	5.772	0.000
AT → BI	0.645	0.618	5.351	0.000

Notes:

Fear mixed with challenge appeal (N=228);

Fear appeal (N=145);

Challenge appeal (N=82).

Non-significant path are marked in red

Appendix 7.10.A: Wald Test Results (Fear Mixed with Challenge vs Fear)

MODEL FIT INFORMATION

Number of Free Parameters	119
Loglikelihood	
H0 Value	-13856.084
H0 Scaling Correction Factor for MLR	1.6036
H1 Value	-13557.354
H1 Scaling Correction Factor for MLR	1.2038
Information Criteria	
Akaike (AIC)	27950.167
Bayesian (BIC)	28440.483
Sample-Size Adjusted BIC ($n^* = (n + 2) / 24$)	28062.816
Chi-Square Test of Model Fit	
Value	562.249*
Degrees of Freedom	337
P-Value	0.0000
Scaling Correction Factor for MLR	1.0626
Chi-Square Contribution From Each Group	
FEAR	212.175
MIXED	183.158
CHALLENGE	166.915

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

Wald Test of Parameter Constraints

Value	7.504
Degrees of Freedom	1
P-Value	0.0062

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.066
90 Percent C.I.	0.057 0.076
Probability RMSEA \leq .05	0.004

CFI/TLI

CFI	0.946
TLI	0.942

Chi-Square Test of Model Fit for the Baseline Model

Value	4497.100
Degrees of Freedom	360
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.129
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Appendix 7.10.B: Wald Test Results (Fear mixed with Challenge vs Challenge)

MODEL FIT INFORMATION

Number of Free Parameters	119
Loglikelihood	
H0 Value	-13856.084
H0 Scaling Correction Factor for MLR	1.6036
H1 Value	-13557.354
H1 Scaling Correction Factor for MLR	1.2038
Information Criteria	
Akaike (AIC)	27950.167
Bayesian (BIC)	28440.483
Sample-Size Adjusted BIC	28062.816
(n* = (n + 2) / 24)	
Chi-Square Test of Model Fit	
Value	562.249*
Degrees of Freedom	337
P-Value	0.0000
Scaling Correction Factor for MLR	1.0626
Chi-Square Contribution From Each Group	
FEAR	212.175
MIXED	183.158
CHALLENGE	166.915

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

Wald Test of Parameter Constraints

Value	7.981
Degrees of Freedom	1
P-Value	0.0047

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.066
90 Percent C.I.	0.057 0.076
Probability RMSEA <= .05	0.004

CFI/TLI

CFI	0.946
TLI	0.942

Chi-Square Test of Model Fit for the Baseline Model

Value	4497.100
Degrees of Freedom	360
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.129
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Appendix 7.10.C: Wald Test Results (Challenge vs Fear)

MODEL FIT INFORMATION

Number of Free Parameters	119
Loglikelihood	
H0 Value	-13856.084
H0 Scaling Correction Factor for MLR	1.6036
H1 Value	-13557.354
H1 Scaling Correction Factor for MLR	1.2038
Information Criteria	
Akaike (AIC)	27950.167
Bayesian (BIC)	28440.483
Sample-Size Adjusted BIC (n* = (n + 2) / 24)	28062.816
Chi-Square Test of Model Fit	
Value	562.249*
Degrees of Freedom	337
P-Value	0.0000
Scaling Correction Factor for MLR	1.0626
Chi-Square Contribution From Each Group	
FEAR	212.175
MIXED	183.158
CHALLENGE	166.915

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

Wald Test of Parameter Constraints

Value	1.070
Degrees of Freedom	1
P-Value	0.3009

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.066
90 Percent C.I.	0.057 0.076
Probability RMSEA <= .05	0.004

CFI/TLI

CFI	0.946
TLI	0.942

Chi-Square Test of Model Fit for the Baseline Model

Value	4497.100
Degrees of Freedom	360
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.129
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Appendix 7.11.A: Results of Kruskal Wallis Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
How likely is it that in the future (e.g. next 3 months) you will:-Enroll in a gambling help and support program if one were available to you at minimal cost and easy access.	455	3.39	2.637	1	9
This ad makes me feel	455	1.86	.693	1	3

Test Statistics^{a,b}

	How likely is it that in the future (e.g. next 3 months) you will:-Enroll in a gambling help and support program if one were available to you at minimal cost and easy access.
Chi-Square	10.971
df	2
Asymp. Sig.	.004

a. Kruskal Wallis Test

b. Grouping Variable:
This ad makes me
feel

Ranks

	This ad makes me feel	N	Mean Rank
How likely is it that in the future (e.g. next 3 months) you will:-Enroll in a gambling help and support program if one were available to you at minimal cost and easy access.	fear	145	199.25
	mixed	228	242.10
	challenge	82	239.64
	Total	455	

Appendix 7.11.B: Results of Kruskal Wallis Test with PGI Split

Descriptive Statistics

This ad makes me feel		N	Mean	Std. Deviation	Minimum	Maximum
fear	BI_Sum	145	9.1586	7.26643	3.00	27.00
	PGI_C	145	1.1655	.80807	.00	2.00
mixed	BI_Sum	228	11.3947	7.64420	3.00	27.00
	PGI_C	228	1.2237	.82257	.00	2.00
challenge	BI_Sum	82	11.7805	7.46353	3.00	27.00
	PGI_C	82	1.2317	.75847	.00	2.00

Test Statistics^{a,b}

This ad makes me feel		BI_Sum
fear	Chi-Square	11.294
	df	1
	Asymp. Sig.	.001
mixed	Chi-Square	29.329
	df	1
	Asymp. Sig.	.000
challenge	Chi-Square	20.580
	df	1
	Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: PGI_C

Ranks

This ad makes me feel		PGI_C	N	Mean Rank
fear	BI_Sum	moderate risk gamblers	47	43.14
		problem gamblers	61	63.25
		Total	108	
mixed	BI_Sum	moderate risk gamblers	63	59.23
		problem gamblers	108	101.62
		Total	171	
challenge	BI_Sum	moderate risk gamblers	31	22.19
		problem gamblers	35	43.51
		Total	66	

Appendix 7.12.A: Measurement and Structural Portions of LMS Model 1 without TA x AT Interaction

Measurement and Structural Portions of LMS Model 1 <u>without</u> TA x AT Interaction					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.933	-	
	Fearful	0.925	0.882	23.378	
	Afraid	0.922	0.856	21.512	
Challenge (CH)	Determined	1.000 ¹	0.695	-	-
	Hopeful	0.987	0.696	10.464	0.000
	Eager	1.082	0.757	8.761	0.000
	Inspired	1.186	0.794	9.339	0.000
Tolerance of ambiguity (TA)	TA1	1.000 ¹	0.691	-	-
	TA2	1.227	0.768	8.801	0.000
	TA3	1.267	0.697	7.409	0.000
	TA4	1.229	0.712	6.946	0.000
	TA5	1.271	0.780	8.178	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.809	-	-
	SMIP Parcel	0.839	0.783	9.42	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.891	-	-
	AT2	0.992	0.864	16.894	0.000
	AT3	1.044	0.908	20.917	0.000
	AT4	1.018	0.872	18.201	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	0.851	-	-
	BI2	1.039	0.943	23.068	0.000
	BI3	1.046	0.940	21.424	0.000
Paths					
Fear → SMIP/DP		0.149	0.252	2.995	0.003
Challenge → SMIP/DP		0.209	0.238	2.718	0.007
Fear → BI		0.025	0.025	0.395	0.693
Challenge → BI		0.109	0.062	1.004	0.316
SMIP/DP → AT		0.757	0.648	11.004	0.000
AT → BI		0.773	0.719	13.861	0.000
TA → BI		-0.179	-0.094	-1.380	0.168

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant paths are marked in red;

N=228.

Appendix 7.12.B: Measurement and Structural Portions of LMS Model 1 with TA x AT Interaction

Measurement and Structural Portions of LMS Model 1 <u>with</u> TA x AT Interaction				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t</i> value	<i>p</i>
Fear(F)	Scared	1.000 ¹	-	-
	Fearful	0.925	23.363	0.000
	Afraid	0.922	21.513	0.000
Challenge (CH)	Determined	1.000 ¹	-	-
	Hopeful	0.988	10.467	0.000
	Eager	1.080	8.769	0.000
	Inspired	1.185	9.348	0.000
Tolerance of ambiguity (TA)	TA1	1.000 ¹	-	-
	TA2	1.232	9.165	0.000
	TA3	1.281	7.614	0.000
	TA4	1.278	8.600	0.000
	TA5	1.239	7.194	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.840	9.682	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.991	16.879	0.000
	AT3	1.046	20.727	0.000
	AT4	1.021	18.053	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	-	-
	BI2	1.039	23.261	0.000
	BI3	1.047	21.600	0.000
Paths and Interactions				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Fear → SMIP/DP	0.149	0.137	3.093	0.002
Challenge → SMIP/DP	0.210	0.165	2.833	0.005
Fear → BI	0.018	0.003	0.290	0.889
Challenge → BI	0.067	0.007	0.719	0.822
SMIP/DP → AT	1.035	0.841	8.138	0.000
AT → BI	0.751	0.730	10.396	0.000
TA → BI	-0.177	-0.101	-1.375	0.233
TA x AT → BI	-0.120	-0.196	-2.526	0.012

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant paths are marked in red;

N=228.

Appendix 7.13.A: Measurement and Structural Portions of LMS Model 2 without TNE x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 2 <u>without</u> TNE x SMIP/DP Interaction					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (<i>β</i>)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.915	-	-
	Fearful	0.920	0.900	19.146	0.000
	Afraid	0.869	0.859	12.961	0.000
Tolerance of negative emotions (TNE)	TNE1	1.000 ¹	0.699	-	-
	TNE2	0.992	0.612	5.423	0.000
	TNE3	1.074	0.739	5.580	0.000
	TNE4	0.759	0.517	4.207	0.000
SMIP/DP	DP	1.000 ¹	0.779	-	-
	Parcel SMIP Parcel	0.815	0.757	6.239	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.875	-	-
	AT2	0.986	0.805	12.664	0.000
	AT3	0.953	0.809	12.076	0.000
	AT4	0.959	0.838	11.949	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	0.799	-	-
	BI2	1.106	0.941	12.149	0.000
	BI3	1.141	0.953	12.509	0.000
Paths					
Fear → SMIP/DP		0.226	0.347	3.677	0.000
Fear → BI		0.118	0.123	1.718	0.086
SMIP/DP → AT		1.149	0.754	12.320	0.000
AT → BI		0.616	0.637	8.705	0.000
TNE → AT		0.151	0.214	1.900	0.057

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant path or interactions are marked in red;

N=145.

Appendix 7.13.B: Measurement and Structural Portions of LMS Model 2 with TNE x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 2 <u>with</u> TNE x SMIP/DP Interaction				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	1.000 ¹	-	-
	Fearful	0.922	19.495	0.000
	Afraid	0.871	13.092	0.000
Tolerance of negative emotions (TNE)	TA1	1.000 ¹	-	-
	TA2	0.986	5.442	0.000
	TA3	1.069	5.593	0.000
	TA4	0.759	4.249	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.837	5.638	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.982	12.599	0.000
	AT3	0.953	11.755	0.000
	AT4	0.960	11.631	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	-	-
	BI2	1.106	12.129	0.000
	BI3	1.140	12.519	0.000
Paths and Interaction Effect				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t value</i>	<i>p</i>
Fear → SMIP/DP	0.228	0.298	3.916	0.000
Fear → BI	0.118	0.107	1.702	0.088
SMIP/DP → AT	1.143	0.842	6.805	0.000
AT → BI	0.615	0.580	6.316	0.000
TNE → AT	0.058	0.051	0.457	0.644
TNE x SMIP/DP → AT	0.098	0.160	1.731	0.077

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant paths or interactions are marked in red;

N=145

**Appendix 7.14.A: Measurement and Structural Portions of LMS Model 3 without SA
x SMIP/DP Interaction**

Measurement and Structural Portions of LMS Model 3 <u>without</u> SA x SMIP/DP Interaction^A					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (<i>β</i>)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.942	-	-
	Fearful	0.934	0.915	37.887	0.000
	Afraid	0.934	0.896	34.498	0.000
Challenge (CH)	Determined	1.000 ¹	0.752	-	-
	Hopeful	1.058	0.794	17.330	0.000
	Eager	0.934	0.742	16.038	0.000
	Inspired	1.112	0.826	16.737	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.756	-	-
	SMIP	0.834	0.747	20.055	0.000
	Parcel				
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.884	-	-
	AT2	0.973	0.840	24.008	0.000
	AT3	1.024	0.875	26.497	0.000
	AT4	1.012	0.864	24.175	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	0.817	-	-
	BI2	1.086	0.947	27.025	0.000
	BI3	1.078	0.938	26.498	0.000
Self-accountability (SA)	SA1	1.000 ¹	0.748	-	-
	SA2	0.936	0.679	9.641	0.000
	SA3	0.979	0.809	6.696	0.000
Paths					
Fear → SMIP/DP		0.145	0.277	5.134	0.000
Challenge → SMIP/DP		0.268	0.367	7.290	0.000
Fear → BI		0.027	0.030	0.726	0.468
Challenge → BI		0.147	0.147	3.043	0.002
SMIP/DP → AT		1.204	0.724	18.035	0.000
AT → BI		0.677	0.662	14.922	0.000
AT → SA		-0.102	-0.061	-1.065	0.287

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

^A MLR $\chi^2 = 334.025$, *df* = 160, *p* = 0.0000, RMSEA = 0.049 (90% CI: 0.042; 0.056), close-test *p* value = 0.587, CFI = 0.962, TLI = 0.955 and SRMR = 0.070;

Non-significant path are marked n red;

N=455.

Appendix 7.14.B: Measurement and Structural Portions of LMS Model 3 with a Single SA x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 3 <u>with</u> a Single SA x SMIP/DP Interaction				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	1.000 ¹	-	-
	Fearful	0.935	37.898	0.000
	Afraid	0.934	34.495	0.000
Challenge (CH)	Determined	1.000 ¹	-	-
	Hopeful	1.059	17.333	0.000
	Eager	0.934	16.040	0.000
	Inspired	1.112	16.731	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.841	13.045	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.974	23.935	0.000
	AT3	1.024	26.439	0.000
	AT4	1.012	24.134	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	-	-
	BI2	1.086	27.034	0.000
	BI3	1.078	26.493	0.000
Self-accountability	SA1	1.000 ¹	-	-
	SA2	0.981	7.508	0.000
	SA3	0.839	5.580	0.000
Paths and Interaction				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t value</i>	<i>p</i>
Fear → SMIP/DP	0.145	0.220	5.267	0.000
Challenge → SMIP/DP	0.266	0.364	7.017	0.000
Fear → BI	0.026	0.025	0.717	0.473
Challenge → BI	0.183	0.159	2.969	0.003
SMIP/DP → AT	1.202	0.851	10.930	0.000
AT → BI	0.678	0.608	11.989	0.000
AT → SA	-0.033	-0.029	-0.314	0.754
SA x SMIP/DP	0.168	0.259	2.649	0.008

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant paths are marked in red;

N=455.

Appendix 7.15.A: Measurement and Structural Portions of LMS Model 3 without RE x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 3 <u>without</u> RE x SMIP/DP Interaction ^A					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (<i>β</i>)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.944	-	-
	Fearful	0.934	0.914	37.991	0.000
	Afraid	0.933	0.896	34.530	0.000
Challenge (CH)	Determined	1.000 ¹	0.753	-	-
	Hopeful	1.057	0.794	17.361	0.000
	Eager	0.932	0.742	15.977	0.000
	Inspired	1.109	0.825	16.798	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.746	-	-
	SMIP Parcel	0.857	0.758	13.345	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.888	-	-
	AT2	0.971	0.843	24.166	0.000
	AT3	1.023	0.879	26.755	0.000
	AT4	1.011	0.868	24.420	0.000
Help- seeking behavioural intention (BI)	BI1	1.000 ¹	0.819	-	-
	BI2	1.086	0.948	27.037	0.000
	BI3	1.078	0.939	26.486	0.000
Response efficacy (RE)	RE1	1.000 ¹	0.668	-	-
	RE2	0.953	0.632	6.739	0.000
	RE3	1.117	0.706	8.500	0.000
Paths					
Fear → SMIP/DP		0.143	0.276	5.071	0.000
Challenge → SMIP/DP		0.269	0.373	7.370	0.000
Fear → BI		0.026	0.028	0.690	0.490
Challenge → BI		0.180	0.143	2.976	0.003
SMIP/DP → AT		1.281	0.747	19.995	0.000
AT → BI		0.680	0.671	15.137	0.000
AT → RE		-0.309	-0.149	-2.563	0.010

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant path is marked in red;

^A MLR $\chi^2 = 316.104$, *df* = 142, *p* = 0.0000, RMSEA = 0.052 (90% CI: 0.044; 0.060), close- test *p* value = 0.331, CFI = 0.960, TLI = 0.952 and SRMR = 0.075;

N=455.

Appendix 7.15.B: Measurement and Structural Portions of LMS Model 3 with a Single RE x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 3 <u>with</u> a Single RE x SMIP/DP Interaction				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	1.000 ¹	-	-
	Fearful	0.934	37.982	0.000
	Afraid	0.933	34.515	0.000
Challenge (CH)	Determined	1.000 ¹	-	-
	Hopeful	1.057	17.377	0.000
	Eager	0.933	15.977	0.000
	Inspired	1.110	16.792	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.845	13.882	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.969	23.875	0.000
	AT3	1.019	26.462	0.000
	AT4	1.008	24.146	0.000
Help-seeking behavioural intention (BI)	BI1	1.000 ¹	-	-
	BI2	1.086	27.035	0.000
	BI3	1.078	26.490	0.000
Response efficacy (RE)	RE1	1.000 ¹	-	-
	RE2	0.920	7.514	0.000
	RE3	1.118	8.489	0.000
Paths and Interaction				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t value</i>	<i>p</i>
Fear → SMIP/DP	0.142	0.216	5.167	0.000
Challenge → SMIP/DP	0.269	0.368	7.034	0.000
Fear → BI	0.025	0.024	0.674	0.500
Challenge → BI	0.182	0.158	2.964	0.003
SMIP/DP → AT	1.253	0.886	10.733	0.000
AT → BI	0.679	0.609	12.038	0.000
AT → RE	-0.186	-0.120	-1.336	0.182
RE x SMIP/DP	0.253	0.293	3.318	0.001

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated; Non-significant paths are marked in red; N=455.

Appendix 7.16.A: Table 7.24: Measurement and Structural Portions of LMS Model 3 without INV x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 3 <u>without</u> INV x SMIP/DP Interaction^A					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (<i>β</i>)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.942	-	-
	Fearful	0.938	0.916	38.424	0.000
	Afraid	0.936	0.896	35.381	0.000
Challenge (CH)	Determined	1.000 ¹	0.778	-	-
	Hopeful	0.954	0.741	15.187	0.000
	Eager	0.932	0.767	14.672	0.000
	Inspired	1.009	0.776	14.610	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.756	-	-
	SMIP Parcel	0.840	0.753	12.410	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.875	-	-
	AT2	0.973	0.828	23.949	0.000
	AT3	1.023	0.865	26.501	0.000
	AT4	1.013	0.855	24.117	0.000
Help- seeking behavioural intention (BI)	BI1	1.000 ¹	0.811	-	-
	BI2	1.085	0.944	27.059	0.000
	BI3	1.078	0.936	26.475	0.000
Involvement with the advertisement (INV)	INV1	1.000 ¹	0.789	-	-
	INV2	1.245	0.914	16.188	0.000
	INV3	1.009	0.781	20.799	0.000
	INV4	1.203	0.825	14.766	0.000
Paths					
Fear → SMIP/DP		0.141	0.267	4.853	0.000
Challenge → SMIP/DP		0.275	0.390	7.112	0.000
Fear → BI		0.023	0.026	0.608	0.543
Challenge → BI		0.193	0.164	3.234	0.001
SMIP/DP → AT		0.956	0.602	11.175	0.000
AT → BI		0.667	0.636	13.836	0.000
AT → INV		0.329	0.220	3.982	0.000

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated; Non-significant path is marked in red;

^A MLR $\chi^2 = 370.899$, *df* = 158, *p* = 0.0000, RMSEA = 0.054 (90% CI: 0.047; 0.062), close-test *p* value = 0.151, CFI = 0.959, TLI = 0.951 and SRMR = 0.090; N=455.

Appendix 7.16.B: Measurement and Structural Portions of LMS Model 3 with a Single INV x SMIP/DP Interaction

Measurement and Structural Portions of LMS Model 3 <u>with</u> a Single INV x SMIP/DP Interaction				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t value</i>	<i>p</i>
Fear (F)	Scared	1.000 ¹	-	-
	Fearful	0.938	38.438	0.000
	Afraid	0.936	35.325	0.000
Challenge (CH)	Determined	1.000 ¹	-	-
	Hopeful	0.956	15.202	0.000
	Eager	0.933	14.707	0.000
	Inspired	1.011	14.651	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.843	12.791	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.970	23.793	0.000
	AT3	1.021	26.267	0.000
	AT4	1.010	23.858	0.000
Help-seeking behavioural intention(BI)	BI1	1.000 ¹	-	-
	BI2	1.085	27.052	0.000
	BI3	1.078	26.479	0.000
Involvement with the advertisement (INV)	INV1	1.000 ¹	-	-
	INV2	1.246	16.683	0.000
	INV3	1.007	20.962	0.000
	INV4	1.203	15.129	0.000
Paths and Interaction				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t value</i>	<i>p</i>
Fear → SMIP/DP	0.136	0.206	4.808	0.000
Challenge → SMIP/DP	0.271	0.371	6.806	0.000
Fear → BI	0.021	0.020	0.556	0.578
Challenge → BI	0.192	0.166	3.086	0.002
SMIP/DP → AT	0.989	0.700	9.010	0.000
AT → BI	0.669	0.600	11.772	0.000
AT → INV	0.415	0.299	4.993	0.000
INV x SMIP/DP	0.207	0.266	5.025	0.000

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant path is marked in red.

N=455.

Appendix 7.17.A: Measurement and Structural Portions of LMS Model 3 without SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP Simultaneous Interactions

Measurement and Structural Portions of LMS Model 3 <u>without</u> SA x SMIP/DP, RE x SMIP/DP, and INV x SMIP/DP Simultaneous Interactions					
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (<i>β</i>)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	0.942	-	-
	Fearful	0.937	0.915	38.007	0.000
	Afraid	0.935	0.896	35.160	0.000
Challenge (CH)	Determined	1.000 ¹	0.756	-	-
	Hopeful	1.048	0.790	16.998	0.000
	Eager	0.930	0.743	15.930	0.000
	Inspired	1.101	0.822	16.480	0.000
SMIP/DP	DP Parcel	1.000 ¹	0.749	-	-
	SMIP Parcel	0.869	0.771	12.512	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	0.879	-	-
	AT2	0.970	0.831	24.379	0.000
	AT3	1.026	0.872	27.106	0.000
	AT4	1.015	0.861	24.660	0.000
Help- seeking behavioural intention (BI)	BI1	1.000 ¹	0.815	-	-
	BI2	1.085	0.946	27.072	0.000
	BI3	1.078	0.938	26.447	0.000
Involvement with the advertisement (INV)	INV1	1.000 ¹	0.855	-	-
	INV2	1.098	0.873	18.139	0.000
	INV3	1.008	0.847	23.668	0.000
	INV4	1.076	0.801	15.255	0.000
Response efficacy (RE)	RE1	1.000 ¹	0.635	-	-
	RE2	1.089	0.687	7.174	0.000
	RE3	1.126	0.676	10.933	0.000
Self-accountability	SA1	1.000 ¹	0.748	-	-
	SA2	0.936	0.618	9.641	0.000
	SA3	1.093	0.809	11.868	0.000
Paths					
Fear → SMIP/DP		0.137	0.262	4.785	0.003
Challenge → SMIP/DP		0.270	0.373	7.268	0.000
Fear → BI		0.021	0.024	0.570	0.569
Challenge → BI		0.177	0.145	0.932	0.300
SMIP/DP → AT		1.008	0.619	12.144	0.000
AT → BI		0.677	0.650	14.086	0.000
AT → INV		0.416	0.297	5.535	0.000
AT → SA		-0.207	-0.120	-1.990	0.047
AT → RE		-0.397	-0.190	-2.411	0.016

Notes: ¹Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated;

Non-significant paths are marked in red;

N=455.

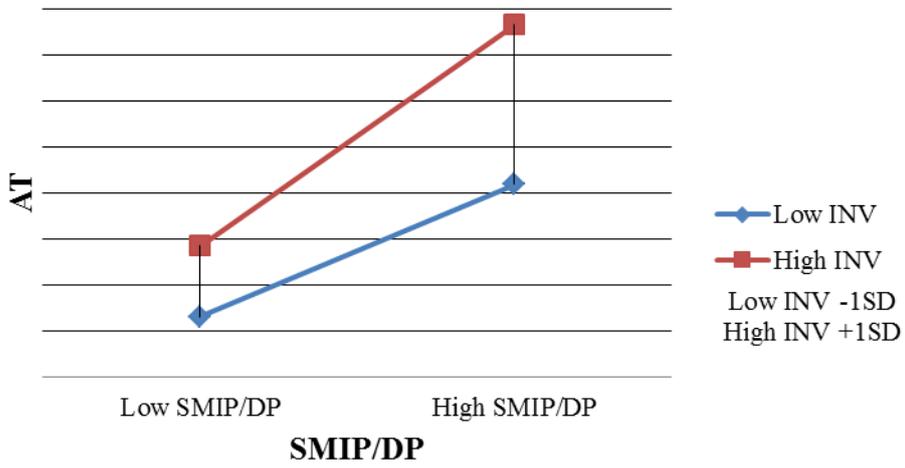
Appendix 7.17.B: Measurement and Structural Portions of LMS Model 3 with Simultaneous SA x SMIP/DP, RE x SMIP/DP, INV x SMIP/DP Interactions

Measurement and Structural Portions of LMS Model Three <u>with</u> Simultaneous SA x SMIP/DP, RE x SMIP/DP, INV x SMIP/DP Interactions				
Latent variables	Indicator variables	Unstandardised regression weights (<i>b</i>)	<i>t</i> value	<i>p</i>
Fear (F)	Scared	1.000 ¹	-	-
	Fearful	0.937	38.027	0.000
	Afraid	0.935	35.018	0.000
Challenge (CH)	Determined	1.000 ¹	-	-
	Hopeful	1.050	17.103	0.000
	Eager	0.932	15.892	0.000
	Inspired	1.104	16.539	0.000
SMIP/DP	DP Parcel	1.000 ¹	-	-
	SMIP Parcel	0.816	14.494	0.000
Attitude towards the advertisement (AT)	AT1	1.000 ¹	-	-
	AT2	0.966	24.084	0.000
	AT3	1.026	26.688	0.000
	AT4	1.015	24.331	0.000
Help-seeking behavioural intentions (BI)	BI1	1.000 ¹	-	-
	BI2	1.086	27.070	0.000
	BI3	1.078	26.449	0.000
Involvement with the advertisement (INV)	INV1	1.000 ¹	-	-
	INV2	1.180	16.870	0.000
	INV3	1.076	19.113	0.000
	INV4	1.159	14.792	0.000
Response efficacy (RE)	RE1	1.000 ¹	-	-
	RE2	1.127	11.495	0.000
	RE3	1.195	11.077	0.000
Self-accountability (SA)	SA1	1.000 ¹	-	-
	SA2	1.255	8.131	0.000
	SA3	1.385	10.300	0.000
Paths and Interactions				
	Unstandardised regression weights (<i>b</i>)	Standardised regression weights (β)	<i>t</i> value	<i>p</i>
Fear → SMIP/D	0.128	0.194	4.221	0.000
Challenge → SMIP/DP	0.263	0.359	6.714	0.000
Fear → BI	0.017	0.016	0.451	0.652
Challenge → BI	0.175	0.152	2.834	0.005
SMIP/DP → AT	0.963	0.682	8.653	0.000
AT → BI	0.683	0.612	11.981	0.000
AT → INV	0.629	0.453	6.503	0.000
AT → SA	-0.434	-0.289	-2.035	0.042
AT → RE	-0.412	-0.270	-1.382	0.167
INV x SMIP	0.241	0.310	3.646	0.000
SA x SMIP	-0.027	-0.032	-0.248	0.806
RE x SMIP	0.074	0.085	0.455	0.652

Notes:

¹ Factor loadings constrained to one to set the scale for the latent construct. Hence, *p* value is not calculated; Non-significant paths or interaction is are marked in red; N=455.

Appendix 7.17.C: Plot of INV x IP/DP Interaction and Its Impact on SMIP/DP→AT Relationship



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