Consuming to Cope: Development of a Measure

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Statement of Authorship and Sources

This thesis contains no material published elsewhere or extracted in whole or in part from a thesis by which I have qualified for or been awarded another degree or diploma.

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All research procedures reported in the thesis received the approval of the relevant Ethics/Safety Committees (where required).

Name: _____________________________

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Date: ______________________________
Statement of Appreciation

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Abstract

Consumption of a range of substances has been associated with human coping behaviour. Accordingly, food, caffeine, cigarettes, alcohol and/or other drugs are consumed as a coping strategy, in response to a stressful situation by some individuals. While various perspectives within the field of psychology have examined consumptive coping behaviour, there has been limited exploration of the specific functions that this coping strategy may serve.

The primary aim of this research was to explore various functions that consumptive coping serves, via construction of a self-report questionnaire. The relevant literature on coping with stressful events and increased consumption was reviewed and critically examined, as was the current state of self-report measurement of consumptive coping. Subsequently, it was proposed that there is a niche for more thorough research into the perceived utility of this coping strategy. Based on the literature, five functions of consumptive coping were anticipated, namely escape/sooth emotions, physical relief, distraction from thoughts, time-out and self-punishment. Various methods were presented that investigated the phenomenon of consumptive coping, and detailed the construction and refinement of a self-report measure, titled the Consuming to Cope Questionnaire (CCQ).

The preliminary development phase of the CCQ incorporated methodical construction of the initial 90-item pool, content validity methods that utilise expert judges, as well as a pilot study with members of the target population. Limitations of the measure were identified and revised through this process. There was a considerable incidence of consumptive coping observed among the 52 participants.
that were involved in the pilot study. The findings of these analyses indicated that the CCQ was ready for application among a larger developmental sample.

In the first major development study, the CCQ was examined for its factor structure among 499 participants that were recruited from an Australian university and a social networking website. Results of the Exploratory Factor Analysis (EFA) revealed four factors. Two of these factors represent the hypothesised functions of “Time-out” and “Physical Relief.” The two other factors consisted of a collection of items that were originally devised to represent escape/soothe emotions or distraction from thoughts. These factors were titled “Escape Psyche” (items pertained to avoidance of unpleasant thoughts and emotions) and “Improve Mood” (items related to enhancement of one’s inner state). Each factor comprised five items. The CCQ displayed satisfactory internal consistency. Other measures included in this study provided some preliminary evidence of validity. Specifically, correlations between the CCQ and measures of avoidance coping, experiential avoidance, distress tolerance and self-esteem supported convergent validity. Divergent validity was supported through the weak correlations between the CCQ and both problem solving and social support-seeking coping. Individuals who reported consumptive coping were also compared to individuals who did not report consumptive coping on the validity measures. It was concluded that the preliminary version of the CCQ was promising.

The second development study incorporated Confirmatory Factor Analysis (CFA) of the CCQ. The primary aim of this phase of research was to examine the factor structure of the CCQ among another sample of participants that consisted of 457 individuals recruited in the same manner as the previous study. The results indicated that the factor structure revealed through the EFA was partially confirmed. Five items were removed (two from Physical Relief and one from the remaining
scales) to meet the statistical requirements of an adequate fitting model. Further, it was found that the 15-item CCQ possessed acceptable internal consistency, and there was evidence of convergent and divergent validity. Unique to this study was the finding that CCQ scores were positively related to scores on measures of depression, anxiety and stress symptoms, and negatively related to mindfulness scores. Furthermore, individuals that reported consumptive coping scored significantly higher on these symptoms, and significantly lower on mindfulness than individuals that did not engage in this coping strategy. These results suggest that consumptive coping may be associated with certain unpleasant psychological experiences, and heightened in individuals with lower awareness of present moment experiences.

Overall, a sizeable proportion of participants consumed substances to cope with stress and endorsed the functions of this coping strategy as measured by the CCQ. This finding highlights the value of research into this phenomenon. Although individuals may utilise a range of coping strategies during stressful encounters, examination of the specific functions that consumptive coping serves is perhaps a novel approach, which has not been applied previously. While the CCQ would benefit from further evaluation, the current research produced a sound self-report measure that demonstrated interesting relationships with diverse coping, and intrapersonal psychological constructs.
Chapter 1

General Introduction
In times of adversity, human nature is not formulaic. Rather, responses to challenging or unpleasant events are complex and variable, and often extend beyond behaviour aimed at direct resolution of the event. It is because of these complex dynamics that the examination of how individuals adapt to the changing circumstances of their life has featured in psychological literature for decades. Change and adversity are an inevitable aspect of life, and as a result, understanding how individuals experience these occurrences is imperative and has broad practical utility.

The term “stress” is deeply embedded in everyday vocabulary. It is often associated with investigations of how individuals experience change and adversity in their daily lives. Aldwin (2007) defines stress as an experience that results from a person interacting with their environmental circumstances, where the subsequent over or under arousal leads to internal distress. Furthermore, the distress experienced may be psychological and physiological, and varies between individuals. This definition highlights the multifaceted nature of stress, which involves interplay between internal experiences and environmental conditions.

There are numerous circumstances that may lead to stress, and Thoits (1995) proposed three overarching categories of stressors. Firstly, stress may be caused by major life events. These events are characterised by acute changes that require large readjustments relatively quickly (e.g., child birth). Secondly, stress may be caused by chronic life strains. These events involve persistent or recurrent demands that require adaptation over a long period of time (e.g., poverty). Thirdly, stress may be caused by daily hassles and minor events. These typically arise unexpectedly throughout the day and require slight readjustments (e.g., traffic jam). Various events with negative and/or positive characteristics can therefore lead to the experience of stress.
Events are not always inherently stressful, and individual differences draw further attention to the complex nature of stress. For example, the death of a terminally ill family member may be an extremely stressful event for one relative, yet another relative may find this event to be associated with feelings of relief. Similarly, a minor event such as spilling a cup of tea may be perceived as stressful for one person and not for another. While it is acknowledged that there may be some traumatic experiences that are universally stressful, such as a life threatening natural disaster, it is important to emphasise that events affect people differently. As a result, the construct of stress has been criticised for its lack of clearly defined boundaries. This is largely due to the fact that determining what is stressful relies heavily on individual subjectivity (Zautra, 2003). However, it is the dynamic nature of stress, which rests in the “eyes of the beholder” (Zautra, p. 35), that makes this phenomenon fascinating.

Just as stress affects individuals differently, there are also various ways that individuals cope with stressful events. Coping can be defined as “constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus, 1984, p.141). These efforts or coping strategies refer to what an individual feels, thinks, or does to cope with stressful events (Frydenberg & Lewis, 2002). Approximately 400 strategies have been identified in a review of the literature (Skinner et al., 2003). Coping strategies are often grouped and classified to represent an overarching coping style or function. For instance, approach- or avoidance-oriented coping emphasises whether the strategy is targeted towards or away, respectively, from the stressor (Finset, Steine, Haugli, Steen, & Laerum, 2002). In another example, problem- and emotion-focused coping categorises the strategy on whether it is aimed at resolving
the stressor itself, or its emotional impact on the individual (Folkman & Lazarus, 1985). The field of coping has contributed valuable information about the various strategies that individuals employ during stressful events.

One specific coping strategy, namely consumptive coping, a term coined by Sarin and Nolen-Hoeksema (2010), is the focus of the current thesis. This coping strategy is characterised by the consumption of substances\(^1\) including food, caffeine, cigarettes, alcohol, and/or other drugs as a response to a stressful event. Unlike coping strategies that entail direct interaction with a stressful event, consumptive coping infers avoidance of the stressor itself, often with an emphasis on manipulating the internal impact of the event. Consumptive coping also involves a degree of change in typical patterns of behaviour. This strategy is therefore characterised by an increase in the consumption of a substance (or substances) as a direct response to a stressful event. Furthermore, the intent of consumption is to assist the individual to cope.

Consumptive coping is an important area of enquiry. How an individual copes with stressful events influences more than the outcome of the event itself. In a broader sense, coping is a vital means for shielding mental and physical health from the often destructive effects of stress (Folkman, 2012). This notion is particularly relevant to consumptive coping, and there may be a distinction between adaptive and maladaptive use of this strategy based on the frequency, amount and type of substances consumed. As a health behaviour, this coping strategy may involve wider implications for some individuals, rather than those just associated with the stressful event. Consumptive coping could thus be associated with an individual’s physical and mental health. In addition, periods of increased consumption are a feature of binge

\(^1\) Although substances typically refers to drugs, when utilised in the current thesis the term substances denotes a range of consumable items inclusive of food, caffeine, cigarettes, alcohol, licit and illicit drugs.
eating disorder, bulimia nervosa, substance-related disorders, obesity, and in some cases, acute and post traumatic stress disorder (American Psychiatric Association, 2013; World Health Organisation, 1992). However, it is important to acknowledge that stress is only one of a myriad of factors (e.g., trauma, genetics, environment, personal history) that may precipitate consumption in the aforementioned psychopathologies. Nevertheless, consumptive coping is a phenomenon that is widely relevant; yet to date there is minimal research that has been conducted with this specific focus. Understanding why people engage in this multifaceted coping strategy is worthy of closer inquiry, and may assist with developing greater understanding of the role it plays in dealing with stress.

1.1 Stress and Consumption of Substances

Similar to responses to stress, the association between stress and consumption of substances is not fixed. Consumption is intricately linked to stress, as it is highly unlikely that all people increase consumption during times of stress. For instance, some people may decrease consumption of food when stressed (Zellner, Saito, & Gonzalez, 2007). However, there is a large body of evidence which suggests that an increase in consumption does occur for a range of substances for some individuals. The following section will review evidence which links stress to the increased consumption of food, caffeine, cigarettes, alcohol, and other drugs.

1.1.1 Food. It has been suggested that the experience of stress can lead to an increase in consumption of food (Adam & Epel, 2007; Wardle, Steptoe, Oliver, & Lipsey, 2000). In one study, the stress-eating link was examined among 34 undergraduate female students with a mean age of 22 years (Zellner et al., 2006).
Participants were placed in a high or no stress group and subsequently received either ten unsolvable or ten solvable anagrams, to be attempted in a time frame of ten minutes. Food was placed on the tables where participants completed the tasks. Subjective reports of stress were obtained immediately after the ten minutes elapsed, and food bowls were weighed. Results demonstrated that females in the high stress group reported significantly higher stress levels and ate more food than females in the no stress group. In a similar study among 36 male undergraduate students with a mean age of 20 years there was no significant difference between the overall amount of food consumed in the stress and no stress groups, despite the stress group reporting higher perceived stress levels (Zellner et al., 2007). However, males in the no stress group ate significantly more unhealthy food than males in the stress group. Zellner et al. (2007) proposed that this finding may have been due to these individuals rewarding themselves after completing the easy anagram task. Interestingly, results of self-report measures also included in this study suggested that 39% of participants reported that they tend to increase consumption of unhealthy food when stressed. A link between stress and consumption was found in another study that examined the effects of stress on eating through self-report measures. Among 63 male students with a mean age of 23 years and 149 female students with a mean age of 25 years, Oliver and Wardle (1999) found that snacking was perceived to increase because of heightened stress for 73% of participants. Research that utilised a different method also revealed somewhat comparable findings. Among a large sample of 422 male and female participants aged 16 to 65 years, O’Connor and colleagues (2008) examined daily diary reports of food intake and perceived stressfulness of daily hassles. This study revealed that stressors were linked to increased snacking of food between meals. A noteworthy finding that was generally consistent between these studies was
that the food that was consumed when stressed tended to be unhealthy, high calorie foods.

1.1.2 Caffeine. Caffeine has been described as the most frequently used central nervous system stimulant (Grunberg, Berger, & Hamilton, 2010). However, there is minimal research on the relationship between stress and increased consumption of caffeine. In one study by Ratliff-Crain and Kane (1995), self-report responses of 182 females and 106 males with a mean age of 22 years revealed that caffeine consumption increased during stressful periods. More specifically, 55% of participants reported an increase in consumption of caffeinated beverages when stressed. Similar results were found in a more recent study by Oaten and Cheng (2005), whereby exam stress was related to an increase in caffeine consumption (and cigarettes) among 11 male and 19 female university students with a mean age of 20 years. The findings of these two studies support the notion that stress may be associated with an increase in caffeine consumption for some individuals.

1.1.3 Cigarettes. Another substance of interest is nicotine, a stimulant that is typically consumed by smoking cigarettes (Jung, 2010). In the years 2011 and 2012, almost 50% of Australians surveyed as part of a large scale Australian Health Survey reported that they were current or ex tobacco smokers (ABS, 2012). Whilst the reasons that these individuals consumed tobacco can not be determined from these statistics, research findings often suggest that stress is one factor associated with the initiation, maintenance and relapse of smoking tobacco (Bindu, Sharma, Suman, & Marimuthu, 2011; Kassel, Stroud, & Paronis, 2003; McKee et al., 2010; Mohammad & Carlin, 2006; Shiffman et al., 1996; Sun, Buys, Stewart, Shum, & Farquhar, 2011). In a recent qualitative interview-based Australian study that recruited 34 adult smokers and ex-smokers with a current diagnosis of depression, higher stress was
indicated to have a strong relationship with greater tobacco consumption for both
groups (Tsourtos et al., 2011). Not specific to clinical samples, the same stress-
smoking relationship has also been found among a sample of 180 university students
(Steptoe, Wardle, Pollard, Canaan, & Davies, 1996). These findings suggest that
increased consumption of cigarettes during stressful events appears to occur for some
individuals.

1.1.4 Alcohol. Unlike stimulants such as caffeine and nicotine, alcohol slows
down the activity of the central nervous system, and in doing so, is classified as a
depressant (Nevid & Rathus, 2013). It is widely recognised that a large proportion of
the Australian population consumes alcohol. In 2011-2012, 82% of Australians aged
18 years and over reported to have consumed alcohol in the previous year (ABS,
2012). While there are various social, emotional, and cultural reasons that individuals
may consume alcohol, research consistently links increased drinking to levels of
perceived stress. For example, Park, Armeli, and Tennen (2004) found that among 36
male and 101 female students with a mean age of 19 years, results from daily surveys
completed over a period of one month revealed that students tended to consume more
alcohol on days with events that were perceived as more stressful. Butler, Dodge, and
Faurote (2010) found that among 27 male and 97 female employed college students
with a mean age of 21 years, daily hours worked was positively correlated with the
number of alcoholic beverages consumed on that day. In this study, increased stress
was operationalised as the more hours worked in a day in addition to study
obligations. Grzywacz and Amleida (2008) conducted a study among a large
American sample that consisted of 802 individuals with an average age of 45 years
and was deemed to match the composition of the general population. This research
examined daily diary reports and self-report questionnaires, and found that not only
did individuals drink more on stressful days compared to non-stressful days, but also drinking increased as the number of stressors increased. Collectively, these findings may provide support for the link between increased drinking and stress.

1.1.5 Other drugs. In addition to the aforementioned substances, other licit and illicit drugs may be consumed at a greater rate than usual during stressful experiences. For example, stress and negative life events have been associated with increased marijuana use (Hyman & Sinha, 2009; Windle & Weisner, 2004). Results of a large online self-report based study among 1,267 male and 3,134 female college students with a collective mean age of 24 years, support this notion (Berg, Buchanan, Grimsley, & Smith, 2011). It was found that higher perceived stress correlated with greater marijuana use (Berg et al., 2011). In a different study, Frone (2008) found that greater use of illicit drugs (namely marijuana, cocaine, sedatives, tranquilizers, stimulants and analgesics) occurred under conditions of stress among a sample of 2,790 American workers. This sample had a roughly even split of males and females (53% and 47% respectively), with a mean age of 39 years. More specifically, Frone found that work stressors were significantly and positively related to the frequency of drug use during the workday and after work. In addition to such findings, the notion that stress is associated with drug use in non-addicts, and relapse in addicts, is central to theoretical models of addictive behaviour (Sinha, 2001).

1.1.6 Stress and increased consumption of substances. Collectively, the aforementioned research findings demonstrate a connection between stress and increased consumption for five broad categories of substances: food, caffeine, cigarettes, alcohol and other drugs. While it is acknowledged that there is a vast array of possible substances that could be consumed when stressed, these five categories (although not exhaustive of all possible consumable substances), represent types of
substances that are frequently examined within the context of stress. Accordingly, the research described above provides an evidence-based framework from which to broadly categorise substances for the purpose of research that explores stress and consumption.

While it is difficult to conclude that these studies provide direct evidence of consumptive coping, coping oriented expectancies and motives are frequently associated with substance use (Brandon & Baker, 1991; Cooper, Russell, Skinner, & Windle, 1992; Demmel & Hagen, 2003; Jackson, Cooper, Mintz, & Albino, 2003). Expectancies refer to the beliefs that people hold about the effects (physical, psychological, or behavioural) of consuming a substance, which are considered to be precursors to motives or reasons why people consume (Carrigan, Ham, Thomas, & Randall, 2008; Cooper, Frone, Russell, & Mudar, 1995; Marlatt & Gordon, 1985). Accordingly, once an individual expects that consuming a substance will help them cope, he or she can then be motivated to engage in consumption for that purpose.

However, there are various expectancies and motives for consumption of substances other than coping. For example, alcohol expectancies range from social assertiveness, tension reduction, cognitive impairment, aggression, and/or sexual enhancement (Demmel & Hagen, 2003). Motives that underlie alcohol consumption may include coping, social, and/or mood enhancement (Doyle, Donovan, & Simpson, 2011). The construct domains of expectancies and motives clearly extend beyond coping, and while there may be some conceptual overlap between coping oriented expectancies, motives, and consumptive coping, theories of coping are dedicated to understanding how individuals respond to stressful events. Theories of coping thus provide the most appropriate framework for the current investigation, which focuses solely on consumption that occurs as a coping strategy. There are numerous coping theories that
have attempted to capture the context within which coping strategies are embedded, each of which contribute to a broader understanding of the complex dynamics involved in responding to adversity and changes in life circumstances.

1.2 Understanding Coping with Stress

There are numerous theoretical approaches to coping with stress. Given that a review of the entire history and range of coping theories is beyond the scope of the current thesis, an overview of prominent approaches is presented to highlight some of the major differences between such theories. These range from those that emphasise biology, stable factors within the person, as well as ever changing transactions between a person and their environment.

1.2.1 Biology and coping. Biological theories emphasise the body’s response to stress. For example, Selye’s General Adaptation Syndrome (GAS, 1976) describes three phases of the physical response to stress, which tend to occur regardless of the type of stressor. The first, the alarm or reaction stage, is conceptually similar to Cannon’s (1929) well known fight or flight reaction. In this phase, the impact of the stressor activates the sympathetic branch of the autonomic nervous system. This in turn accelerates heart rate and breathing, and releases energy for the body to immobilise and defend itself against the stressor (Nevid & Rathus, 2013). The second stage, known as resistance, is subsequently activated if the stressor remains present after the activation of the alarm stage. As a result, the activity of the sympathetic nervous system is extended to replenish the energy level of the individual. If the individual does not cope with or resolve the stressor, commencement of the third stage, exhaustion, will then occur. This involves fatigue and activation of the
parasympathetic nervous system, which slows down systems activated by the sympathetic system (Nevid & Rathus, 2013). While physiological components of reactions to stress are irrefutable, biological perspectives underemphasise the role of psychological factors that are vital to a comprehensive understanding of how individuals cope with stress.

1.2.2 Person factors and coping. Individual characteristics contribute to the ways that people respond to stress (Carver & Connor-Smith, 2010). This understanding has underpinned different perspectives on how individuals deal with adversity. As discussed below, a central premise of psychoanalytic and dispositional approaches is that stable enduring characteristics of the individual heavily influence coping.

Psychoanalytic approaches. Defense mechanisms are perhaps one of the pioneering person-oriented explanations of dealing with stress in life. Defenses, conceptualised as attempts of the ego (a feature of one’s psychological structure) to avert anxiety, are concerned with mediating environmental and internal demands to defend against overwhelming and unpleasant internal experiences (Freud, 1966; Haan, 1977; Valliant, 1977; Valliant, Bond, & Valliant, 1986). Defenses are conceptually similar to coping strategies and have been classified hierarchically as either projective (e.g., denial), immature (e.g., acting out), neurotic (e.g., intellectualisation), or mature (e.g., humour) (Valliant, 1977). Greater ego strength and development is thought to be associated with mature/adaptive defenses (e.g., humor), whereas a weaker or underdeveloped ego tends to lead to immature/maladaptive defenses (e.g., acting out) (Bond, 1992; Valliant et al., 1986). However, Haan (1977) highlights an important conceptual distinction between coping and defenses. The former denotes consciously and flexibly dealing with a stressor,
whereas the latter infers reacting unconsciously in a rigid manner towards anxiety when unable to cope.

From a psychoanalytic perspective, consumption of substances has long been identified as a method for dealing with unpleasant experiences. Dating back to the 1920s and 1930s, Freud’s notion of intoxication referred to the use of chemical substances to impede anguish and facilitate pleasure (Freud, 1930/1961). More specifically, consumption of substances has been identified as a particular ego defense mechanism, used as a means to avoid awareness of feelings (Valliant, 1992). In other psychoanalytically informed literature, the self-medication hypothesis refers to substance use that is aimed at alleviating confusing, painful states, distressing emotions, or to achieve comfort or wholeness (Jung, 1961; Khantzian, 1985, 1997). According to this hypothesis, the unpleasant internal experiences that one self-medicates with consumption of substances may be complex psychological issues and also immediate stressful situations (Milkman & Sunderwirth, 2010). However, this theorem may not reflect the various reasons that individuals consume substances during unpleasant experiences, which may be more complex than self-medication (McDonald & Meyer, 2011). Although not an explicit theory of coping, it is likely that psychoanalytic perspectives on defenses influenced the development of other person-oriented approaches to coping that have emerged in the broader psychological arena.

**Dispositions, personality and coping.** A strictly dispositional view of coping proposes that individuals develop typical ways of coping, known as coping styles. In this approach coping is considered a stable, trait like phenomenon, which accounts for individual differences (Aldwin, 2007). Coping styles (also referred to as modes) encompass specific coping strategies. For example, the coping style of “planning”
incorporates coping strategies such as making a plan of action and thinking about what steps to take (Carver, Scheier, & Weintraub, 1989). From a dispositional stance, individuals who employ the planning coping style would tend to apply these strategies characteristically across various stressful situations. The same argument could be made for consumptive coping if it were conceptualised and measured from a dispositional perspective. It has been suggested that coping styles may be somewhat akin to personality traits, although are more specific than traits as they are evoked by stress (Taylor, 2012). It is also possible that coping styles reflect coping strategy preferences of the individual that are consistent with personal beliefs, goals and values (Frydenberg, 2008).

Research based in the dispositional perspective typically examines the influence or interaction between stressors, coping styles, and other personality variables (Suls, David, & Harvey, 1996). For instance, Endler and Parker’s (1990) interactive model explores the complex relationship between personality, anxiety, stress, and coping, with an emphasis on personality factors and coping styles. Personality factors certainly influence coping (Carver & Connor-Smith, 2010), but whether coping is itself dispositional remains somewhat unclear. Accordingly, current thinking tends to suggest that these constructs are related, yet concede that “coping is not simply direct manifestation of personality under adverse conditions” (Carver & Connor-Smith, 2010, p. 687). While it is acknowledged that there may be some consistency among the coping behaviours that are employed by individuals, a pure stylistic approach may not give due regard to the influence of the stressful situation and broader contextual elements. For instance, De Ridder (1997, 2000) found that both stressor characteristics and personality factors account for choice of strategy across situations. However, these findings favoured greater variance due to stressor
characteristics. Evidence such as this may give weight to theoretical approaches to coping that incorporate factors associated with the situation and how one interacts with their environment in specific stressful encounters.

1.2.3 **Cognitive transactional approaches to coping.** Perhaps the most comprehensive approaches to coping are those that incorporate cognitive and situational variables in conjunction with person factors in coping. Such an approach highlights the importance of examining how an individual perceives and responds to their environment, typically with reference to a specific coping instance. It also provides a framework for comprehensive measurement of coping with stress, as evident in Lazarus and Folkman’s (1984) model, which emphasises several variables that are salient to the process of coping.

**Lazarus and Folkman’s (1984) transactional model.** Lazarus and Folkman’s (1984) model suggests that the process of coping encompasses a plethora of thoughts, actions and strategies that are employed variably under different conditions or situations of stress (Lazarus, 2006). From this viewpoint, perceptions about the event are a crucial component in understanding coping behaviour. Although dispositional factors may influence coping, coping is primarily understood to be dynamic and involve transactions between the individual, situation, and coping responses. According to Lazarus and Folkman (1984), all these factors interact and change over time. In contrast to a dispositional approach, the transactional approach suggests that the interplay between personal and environmental factors during a stressful event determines coping strategies. These influential factors that comprise Lazarus and Folkman’s model of coping are presented in Figure 1.1.
According to Lazarus and Folkman’s (1984) transactional model, any stressful encounter begins with an event or environmental demand. The situation is appraised regarding the harmful, threatening or challenging nature of the event and one’s capacity to cope with it, after which coping strategies are employed. These coping strategies are linked to outcomes pertaining to the resolution of the event and subsequent emotional experience. Various person- and situation-oriented factors may influence stress appraisals and the coping process. Although Figure 1.1 indicates a sequence of coping-related responses to an event, it has been suggested that the relationships between variables in this model are not causal, but are instead bi-directional (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). It is

Figure 1.1. Lazarus and Folkman’s (1984) Transactional Stress and Coping Model.
plausible that these facets of coping reciprocally influence each other. Regardless, Lazarus and Folkman’s (1984) model contains fundamental elements of coping that to this day remain pivotal to understanding this phenomenon.

*Appraisal of an event.* Every stressful encounter is distinct and unique. The specifics of a situation, combined with one’s perceptions of the encounter, are integral to examining the process of coping. Transactions between the person and their environment are influenced by an individual’s thoughts or appraisals of that situation. Appraisals are conscious evaluations of a situation, and within the Lazarus and Folkman’s (1984) model there are two main categories. First, primary appraisals determine the meaning of an event for the individual, which could be neutral, positive, or negative. If appraised as negative or stressful, the event is assessed on three additional levels; harm, threat and challenge. More specifically, an individual thinks about the extent to which the event is harmful or may involve loss, poses a danger or threat to one’s wellbeing, and whether it is challenging in an adaptive manner and could lead to positive growth or development. Although not explicitly represented in Figure 1.1, Lazarus and Folkman’s theory also includes secondary appraisals. Secondary appraisals are related to an individual’s perception of their available coping resources and abilities, and whether these will be sufficient in the context of how the situation was primarily appraised. Resources range from physical (e.g., health), social (e.g., support from others), psychological (e.g., self-esteem), or material (e.g., money). Also associated with secondary appraisals are perceptions regarding the amount of control the individual feels they have over the stressful event. Explained simply, the individual asks himself or herself, can I cope with this stressful event?
Primary and secondary appraisals influence an individual’s subjective experience of stress (Lazarus, 1991). For instance, if harm and threat are appraised as high and coping ability or controllability as low, considerable stress is likely to be experienced (Taylor, 2012). This aspect of the transactional model assumes full awareness of cognitive appraisals. However, it could be argued that while all responses to stress only occur after an event is appraised as stressful, some responses to stress may arise involuntarily or be unconscious (e.g., physiological, emotional) (Taylor, 2012). Therefore, a limitation of the transactional model may lie in its emphasis on awareness of the coping process. As suggested by psychoanalytical defenses, coping may not always involve a fully conscious process. Adaptation or responding to the adversity of stressful events may be achieved through both conscious coping strategies and unconscious defense mechanisms (Cramer, 1998). Nevertheless, while the transactional approach may be deficient in the examination of unconscious aspects of coping, an advantage of appraisals is that the impact of a stressful event can be personalised, thus accounting for individual differences in the perceived stressfulness of any event (Folkman, 2012).

Linked to the issue of conscious and un/non-conscious coping is the question of whether appraisals or emotions occur first. Aldwin (2007) argues that awareness of a stressful situation may arise through cognitive and/or emotional experiences. However, such complexity is not explicitly captured by Lazarus and Folkman’s (1984) model. It could be suggested that the relationship between appraisals and emotions in the initial experience of stress is likely intertwined. Despite this limitation of the model, the notion of cognitive appraisal does cater for the variability in which people experience and appraise different stressors.
Coping strategies. Appraisals are linked to how an individual responds to a stressful event by mediating the relationship between stressful events and coping strategies employed (Lazarus & Folkman, 1984). Coping strategies can be cognitive or behavioural and may be directed towards regulating the stressor itself, or the internal impact of it. Coping strategies can therefore be classified into the functions they serve, depicting the purpose or goal of a strategy, independent of the actual outcome achieved (Livneh & Martz, 2007). Within Lazarus and Folkman’s (1984) model, there are two main functions: either problem- or emotion-focused coping. Problem-focused coping refers to active problem solving strategies that are aimed at resolving the issue between the self and the environment. These are strategies that are aimed at direct management of the stressor, such as making a plan of action and following it (Folkman et al., 1986). Alternatively, emotion-focused strategies center on emotion regulation and the capacity of an individual to deal with the internal impact of the stressor, such as trying to forget the event (Folkman et al., 1986). Here, the emotions regulated are those which resulted from appraisals of the event (Folkman, 2012). Folkman et al. (1986) proposed eight sub-categories of problem- and emotion-focused coping strategies: Confrontive coping (e.g., stood my ground and fought for what I wanted); distancing (e.g., went on as if nothing had happened); self control (e.g., I tried to keep my feelings to myself); seeking social support (e.g., accepted sympathy and understanding from someone); accepting responsibility (e.g., realised I brought the problem on myself); planful problem solving (e.g., I made a plan of action and followed it); positive reappraisal (e.g., changed or grew as a person in a positive way); and escape-avoidance, which includes consumptive coping (e.g., tried to make myself feel better by eating, drinking, smoking, using drugs or medications).
The transactional model does not label strategies as either universally functional/adaptive or dysfunctional/maladaptive. Such classification is only possible on a case-by-case basis, through examination of an individual’s perceptions about the stressor, including the reality of the stressor and options for coping compared to the actual coping strategies employed (Lazarus & Folkman, 1987). This is perhaps especially pertinent to consumptive coping, a strategy often associated with dysfunctional connotations. For example, in coping with a stressful event the strategy of consuming large quantities of alcohol could be considered somewhat maladaptive if an individual engaged in it for a prolonged period of time during a long term stressor (Taylor, 2012). Alternatively, if employed in the short term with an acute stressor that an individual has no control over, consuming small quantities of alcohol could be considered adaptive and provide short term relief (Nevid & Rathus, 2013). In another hypothetical scenario, Lazarus (2006) describes the situation of a student taking a diazepam (valium) pill before an exam to cope with intense and potentially performance interfering anxiety. Socio-cultural attitudes aside, consumption of valium in this context may not be maladaptive, but rather serve an adaptive function. Although defining the concepts of problem- and emotion-focused functions and coping that is adaptive and maladaptive is relatively simple, classifying actual coping strategies within these dichotomies can be ambiguous at times. These examples highlight the importance of the context within which any stressful event is set, and add support to the examination of coping that focuses on one specific stressful event.

In contrast to the problem- and emotion-focused coping typologies proposed by Lazarus and Folkman (1984), alternative categorisations of coping strategies have also been proposed (Endler & Parker, 1990; Skinner, Edge, Altman, & Sherwood, 2003; Stanton, Kirk, Cameron, & Danoff-Burg, 2000; Suls & Fletcher, 1985). In one
example, the three overarching categories of coping are seeking social support, problem solving coping and avoidant coping (Amirkhan, 1990). Further, while emotion-focused coping subsumes avoidant coping in some conceptualisations (as in Lazarus and Folkman’s 1984 model), others have represented these types of coping as distinct, such as Endler and Parker’s (1990) task-, emotion-, and avoidance-oriented coping dimensions. This identifies the need for clarity and specificity when drawing inferences about coping strategies based on overarching categories. Nevertheless, regardless of how coping strategies are categorised, a transactionist view suggests that combinations of various strategies, depending on unique factors associated with the individual and the event, are used in most stressful encounters. However, it has been suggested that problem-focused strategies are typically used when the situation is changeable, and emotion-focused or avoidant strategies are used more often when the situation is less changeable (Lazarus & Folkman, 1980). Strategies are selectively employed in conjunction with the changing demands and reappraisals of the situation. This further emphasises the dynamic nature of the transactions that occur between a person and their environment, which change as a stressful event unfolds.

Event and emotion outcome. According to Lazarus and Folkman’s (1984) model, the function of a coping strategy is conceptually distinct from the outcome. For example, although consumptive coping may possess an emotion-focused and escape/avoidance-oriented function, it may not always result in this outcome. In a broader sense, the outcome of applying coping strategies during the stressful event may be favourable and result in positive emotions, or be unfavourable and linked to emotional distress. An inference of the model is that a favourable outcome may or may not indicate that the stressor was resolved, but perhaps that the individual coped as best they could (Folkman et al., 1986). Similarly, a resolved event may have an
unfavourable outcome if other stressors (in addition to the original event) remain, or if
the strategy used was against one’s beliefs. On a superficial level, certain coping
strategies (e.g., planful problem solving) may be associated with more favorable
outcomes, and others (e.g., escape-avoidance) with unfavourable outcomes. However,
it is over simplistic to assume that the functional or dysfunctional value of a strategy
is independent of the context in which it is applied (Lazarus & Folkman, 1987).

Person and situation factors. The final components of Lazarus and Folkman’s
(1984) model involve variables associated with both the person and the situation.
Person factors refer to characteristics such as dispositions/traits, beliefs or goals. In
contrast, factors of the situation relate to resources and demands of the environment.
Also referred to as antecedents or coping resources, person and situation factors
directly influence appraisals of an event and coping strategies subsequently employed
(Lazarus & Folkman, 1984; Thoits, 1995). An individual draws upon various social
and personal characteristics when navigating stressful transactions, as coping is
subject to a myriad of biopsychosocial and contextual factors.

As its name suggests, Lazarus and Folkman’s (1984) transactional model of
coping is dynamic, individual and contextual. It emphasises circularity and reciprocity
among its elements, which continually interact and influence the coping behaviour an
individual employs during a stressful event. The plethora of coping studies
undertaken since its conception has resulted in various revisions to the original model.
In one such revision, Lazarus (1991, 1993) emphasised emotion within transactional
theory and subsequently altered the model from its original format. In another
adaptation, Folkman (1997, 2001, 2008) incorporated positive emotions in the
original model within the specific context of bereavement, examining the co-
ocurrence of positive and negative emotions in the stress process. Within this revised
model, positive emotions were said to occur in relation to challenge appraisals, resolution of the situation, and also as a feature of meaning-focused coping (Folkman, 2008). Other adaptations of the transactional approach have incorporated dispositional coping. In combining situational and stylistic approaches to coping, Moos and Holahan (2003) proposed an integrative transactional model of coping. This model proposed that personal factors (coping styles and personality traits) and contextual factors (one’s environment, transitory events and intervention programs) influence appraisals and the coping strategies selected. Subsequent outcomes then influence the personal and contextual factors when the next stressful event occurs. Despite variations, these models share the principle that responding to adversity is a complicated process whereby factors associated with the person, their environment, and coping, all interact. Furthermore, the components from the original version of Lazarus and Folkman’s (1984) model presented in Figure 1.1 remain fundamental to a comprehensive understanding of coping to date.

### 1.2.4 Summary of understanding coping with stress.

Folkman (2012) stated that stress and coping research is “dynamic, multidimensional, complex, and fascinating” (p. 461), and in this way parallels the coping process itself. Within the field of psychology, theory regarding coping has expanded greatly since the Freudian era. For decades, coping theorists and researchers have attempted to identify, classify and propose a structure for the gamut of coping strategies. However there is by no means a consensus regarding this phenomenon (Aldwin, 2007; Skinner et al., 2003). While the biological, psychoanalytic, and dispositional approaches have contributed to the theoretical understanding of coping, a transactional approach may provide a superior framework for understanding coping. Although not without limitations, Lazarus and Folkman’s (1984) approach captures the fluidity of coping, as well as the
complexity of human nature in responding to stressful events. In doing so, it provides a sound theoretical base to comprehensively examine and understand aspects of the broader context within which the unique coping strategy of interest to this thesis, consumptive coping, is embedded.

1.3 The Current State of Measurement of Consumptive Coping

There are numerous methods that can be employed to measure consumptive coping. These range from the assessment of coping with stress in-vivo by way of laboratory settings (e.g., Zellner et al., 2007), to the use of imagined or hypothetical stressors (e.g., Cheng, 2009). Other methods involve diary reports of stressful events collected at certain predetermined or random points during the day, known as “ecological momentary assessments” (Minami, McCarthy, Jorenby, & Baker, 2011; Nett, Goetz, & Hall, 2011). Most coping and consumptive coping research incorporates the examination of memories of actual experiences. Typically, this is achieved through self-report measures such as questionnaires. The following section will address three overarching perspectives from which existing self-report measures of consumptive coping have been developed. First, scales have been developed from a traditional coping perspective, whereby consumptive coping is examined among other coping strategies. Scales from this perspective focus on how individuals cope with stress in general, or with a specific stressor. Second, coping has been measured as one type of expectancy or motive that underlies consumption of substances. Scales derived from this perspective tend to measure substances separately and examine the various anticipated effects or reasons why individuals may consume a substance, inclusive of, but not limited to, coping. Third, questionnaires that in some way
examine consumptive coping have also been developed from perspectives that are not classified as coping, expectancy or motive approaches. These alternative approaches have informed measures of consumptive coping and conceptually similar variants of this construct, so are also worthy of mention.

1.3.1 The traditional coping perspective. There are numerous questionnaires that have been developed within the field of coping. A primary criticism of coping theory, i.e. the lack of consensus regarding the structure of coping as discussed previously, is reflected in coping measures. As a result, self-report coping questionnaires vary in the number of strategies and functions they assess. This relates directly to consumptive coping, as while some coping scales assess consumption of substances as a strategy, others do not. Examples of the latter include Amirkhan’s (1990) Coping Strategy Indicator, Moos’ (1993) Coping Responses Inventory, and numerous others (Finset et al., 2002; Heppner & Peterson, 1982; Johnson et al., 2011; Kowalski & Crocker, 2001; Stanton et al., 2000).

Of the scales that do assess consumptive coping as a strategy to minimise stress, heterogeneous measurement of this phenomenon may impair the generalisability of findings. To illustrate, Table 1.1 contains a list of self-report coping scales that assess consumption as a coping strategy, and highlights the variability by which this construct is measured. For instance, the 66-item Ways Of Coping Scale Revised (WOCS-R, Folkman et al., 1986) has a single item embedded within its escape-avoidance subscale, “tried to make myself feel better by eating, drinking, smoking, using drugs or medication and so forth.” In contrast, the Coping Inventory for Stressful Situations (CISS, Endler & Parker, 1994) only examines consumption of food, while the COPE questionnaire (Carver et al., 1989) consists of four items that refer to the consumption of alcohol and drugs.
<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Author/s and year</th>
<th>Consumptive coping items</th>
<th>Subscale</th>
<th>Measurement format</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPE: Coping Orientation to Problems Experiences Scale</td>
<td>Carver, Scheier, and Weintraub (1989)</td>
<td>I use alcohol or drugs to make myself feel better. I try to lose myself for a while by drinking alcohol or taking drugs. I drink alcohol or take drugs, in order to think about it less. I use alcohol or drugs to help me get through it.</td>
<td>Substance use</td>
<td>1 (I usually don't do this at all) to 4 (I usually do this a lot).</td>
</tr>
<tr>
<td>COPE (brief version)</td>
<td>Carver (1997)</td>
<td>I've been using alcohol or other drugs to make myself feel better. I've been using alcohol or other drugs to help me get through it. I use alcohol or drugs to think about it less. I've been using alcohol or other drugs to help me get through it.</td>
<td>Substance use</td>
<td>1 (I haven't been doing this at all) to 4 (I've been doing this a lot).</td>
</tr>
<tr>
<td>Coping Inventory for Stressful Situations (CISS)</td>
<td>Endler and Parker (1994)</td>
<td>Go out for a meal. Treat myself to a nice snack.</td>
<td>Avoidance coping (distraction)</td>
<td>1 (not at all) to 5 (very much).</td>
</tr>
<tr>
<td>Coping Scale for Adults (CSA)</td>
<td>Frydenberg and Lewis (1997)</td>
<td>Release pressure by taking alcohol or cigarettes. Eat more (or less) than usual.</td>
<td>Emotional coping</td>
<td>1 (never) to 4 (always).</td>
</tr>
<tr>
<td>Coping with Illness Scale</td>
<td>Murphy, Rotheram-Borus, and Marelich (2003)</td>
<td>Tried to reduce tension by drinking more than usual. Tried to reduce tension by smoking more than usual. Tried to reduce tension by taking more drugs than usual. Traded sex for drugs or money.</td>
<td>Tension reduction</td>
<td>5 (a great deal) to 1 (doesn't apply or don't do it).</td>
</tr>
<tr>
<td>Coping Styles Questionnaire</td>
<td>Roger, Jarvis, and Najarian (1993)</td>
<td>Eat more (or less) than usual.</td>
<td>Emotional coping</td>
<td>1 (never) to 4 (always).</td>
</tr>
<tr>
<td>Cross-Cultural Coping Scale</td>
<td>Kuo, Newby-Clark, and Roysircar (2006)</td>
<td>I engage in activities my parents would not approve of to ease my anxiety or nervousness, such as smoking, drinking, and doing drugs.</td>
<td>Distraction subscale within larger avoidance coping subscale</td>
<td>1 (a very inaccurate description of what I would do) to 6 (a very accurate description).</td>
</tr>
<tr>
<td>Depression Coping Questionnaire</td>
<td>Kleinke (1988)</td>
<td>a) I smoke marijuana. I drink alcoholic beverages. a) Indulgence; b) I take stimulants. c) I take tranquilizers. d) I eat a lot.</td>
<td>a) Indulgence; b) Medication; c) Stimulation; d) Eating</td>
<td>1 (not at all) to 5 (very much).</td>
</tr>
<tr>
<td>Factor analysis of coping behaviours</td>
<td>Robbins and Tanck (1978)</td>
<td>Drink alcohol; use marijuana; tea or coffee; I smoke cigarettes; I eat a lot.</td>
<td>Narcotizing anxiety</td>
<td>0 (never) to 3 (always).</td>
</tr>
<tr>
<td>Ways of Coping Scales - Revised (WOCS-R)</td>
<td>Folkman et al. (1986)</td>
<td>I tried to make myself feel better by eating, drinking, smoking, using drugs, or taking medication and so forth.</td>
<td>Escape-avoidance</td>
<td>0 (does not apply and/or not used) to 3 (used a great deal).</td>
</tr>
</tbody>
</table>

Table 1.1: Questionnaires that Measure Consumptive Coping from a Traditional Coping Perspective
It is evident from the items in Table 1.1 that there is diversity in the measurement of consumptive coping. It could be suggested that the lack of consistency in measurement of consumptive coping, particularly the variability in assessment of substances consumed, may have hindered research on this construct. Another point of variation in measures of consumptive coping (and coping strategies in general) pertains to whether data are collected about how one generally responded to stressful events in the past, or how one responded to a recent stressful event or specific type of stressful event. Examination of how one generally responds to stress is measured when a stylistic/dispositional approach to coping is adopted. Coping scales that adopt this approach do not specify one particular stressor, and instead measure coping strategies employed across an array of stressful events in order to capture how one generally copes. In contrast, the process approach to measurement is based on the premise that different coping strategies are employed variably and uniquely by an individual depending on the event and associated circumstances. Accordingly, coping is measured with regards to a single stressful event. Despite these distinct approaches to coping measurement, some scales (e.g., the COPE, Carver et al., 1989) have been developed as transferrable to either approach. This is achieved by alternating the instructions at the beginning of the questionnaire to either direct respondents to answer how they generally cope, or to answer with a recent event in mind. The research questions of a study and/or theoretical orientation of the investigators dictate the preferred measurement approach.

For the current thesis, the process approach to measurement is consistent with the principles of Lazarus and Folkman’s (1984) transactional model, which emphasises the unique interactions between a person and their environment in responding to a specific stressful event. While it could be assumed that the stylistic
and process approaches to coping measurement would reveal similar findings, the comparability of data collected from these different formats has been questioned (Carver & Scheier, 1994; Carver et al., 1989). One reason for this may be the issue of retrospective bias, which in this instance relates to the efficacy of stressful event recall and coping strategies applied (Aldwin, 2007). Both stylistic and process approaches measure coping retrospectively. However, the most valid results may be those revealed through assessment of a recent stressful event (i.e., within the past fortnight or month), rather than recalling general coping instances over extended periods. In one study, comparison of daily recordings of coping, trait (general coping), and time limited retrospective reports of coping were compared for a period of 30 days (Todd, Tennen, Carney, Armeli, & Affleck, 2004). The sample comprised of 43 males and 50 females with an average age of 38 years. The findings revealed satisfactory concordance between daily and time limited retrospective reporting, while similarity between daily and trait reports were found to be weak. This may suggest that trait recollection is affected by retrospective recall bias to a greater degree than recall of more recent stressful events (Todd et al., 2004). Subsequently, data regarding the general use of coping strategies may be less valid than data obtained about coping strategies that were employed in a recent stressful event. Rather than utilising coping style oriented questionnaires, Lazarus (2006) suggests that coping styles are best examined by looking at data from an array of separate coping instances. For example, data obtained through the process approach on multiple occasions are later aggregated, grouping people based on what strategies they use over time and across situations.

One final difference in self-report measures of consumptive coping that is evident from Table 1.1 relates to the measurement format, or anchors, attached to a
scale. Coping can be assessed via frequency of coping behaviour or how true/representative an item is of an individual. For example, anchors to measures such as the WOCS-R (Folkman et al., 1986) and CISS (Endler & Parker, 1994) assess the frequency that a coping strategy was applied. Other scales such as the Cross Cultural Coping Scale (CCCS, Kou et al., 2006) assess one’s perception of how true a coping strategy is of themselves. While both of these types of anchors reveal useful information, they may uncover somewhat different results. Consequently, this impacts upon comparisons made between coping scales that differ in anchors, which may influence the generalisability of findings.

The Emotion Focused Coping Questionnaire (Jackson & Nolen-Hoeksema, 2000) also measures consumptive coping. It was not included in Table 1.1 as this measure is yet to be published in its own right and has only been utilised in one published article by one of the scale developers (Sarin & Nolen-Hoeksema, 2010). Sarin and Nolen-Hoeksema (2010) assessed consumptive coping in response to distress or negative affect (rather than a stressful event) via seven items that comprise a consumptive coping subscale. The items follow the stem “when I am upset, I…” “drink coffee to feel better”, “eat chocolate to feel better”, “have an alcoholic beverage to unwind”, “eat to feel better”, “binge on food to feel better”, “smoke a cigarette to feel better”, and “take drugs (i.e., prescription, recreational) to feel better.” Although psychometric properties were not available for this scale, the seven items utilised in Sarin and Nolen-Hoeksema’s (2010) study did capture consumption of various substances as a coping strategy. However, as this scale has only been applied in one published study, there is minimal information regarding its utility, reliability and validity.
As evident in the preceding discussion, a number of self-report coping scales measure consumptive coping in various ways. Typically, these items are embedded within an avoidance or substance use subscale. However, it could be suggested that due to the inconsistencies in the measurement of consumptive coping, there is a niche for more specific examination of this particular strategy. It could also be argued that coping measures to date do not assess this phenomenon in a sophisticated manner, nor do they adequately examine the reasons why people consume substances to help themselves cope.

1.3.2 The expectancy and motive perspectives. Consumptive coping has also been measured by questionnaires that assess the expectancies or motives that may underlie consumption of substances. Unlike traditional coping scales, measures developed from an expectancy or motive perspective do not focus on the degree to which the consumptive coping strategy is employed when dealing with stress. Instead, these measures examine the different reasons why people consume substances, some of which relate to coping. For example, consumption may be associated with coping oriented expectancies (e.g., tension reduction) that an individual anticipates are linked to a substance (Hasking & Oei, 2008). Coping may also be an explicit motive that drives consumption of a substance. The measures presented in Table 1.2 highlight several coping-oriented beliefs about consumption measured via expectancy and motive questionnaires. Even though these measures are not specific to coping with a stressful event, they do show a different perspective regarding how consumption of substances may be perceived to help some individuals cope.
### Table 1.2

#### Questionnaires that Measure Consumptive Coping from an Expectancy or Motive Perspective

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Author/s and year</th>
<th>Consumptive coping items</th>
<th>Measurement format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine Effect Expectancy</td>
<td>Schafer and Brown (1991)</td>
<td>I do not become impatient and agitated when I’m on cocaine. Cocaine makes me feel dreamy and mellow.</td>
<td>True/False.</td>
</tr>
<tr>
<td>Comprehensive Alcohol Expectancy</td>
<td>Demmel and Hagen (2003)</td>
<td>I can switch my mind off better. I am not so tensed up anymore. Any pain that I have eases greatly. I am not as tense anymore. I can bear pain more easily. I am more tranquil. I can fall asleep better.</td>
<td>Tension reduction 1 (not at all) to 5 (definitely).</td>
</tr>
<tr>
<td>Modified Smoking Motives</td>
<td>Tate et al. (1994)</td>
<td>I smoke more when I am worried about something. Smoking calms me down.</td>
<td>Sedative 0 (not at all) to 3 (very much).</td>
</tr>
<tr>
<td>Motivations to Eat Scale</td>
<td>Jackson, Cooper, Mintz, and Albino (2003)</td>
<td>Because you're depressed or sad. Because you feel worthless or inadequate. As a way to help you cope. As a way to comfort yourself.</td>
<td>Coping 1 (almost never/never) to 5 (almost always/always).</td>
</tr>
<tr>
<td>Smoking Consequences Questionnaire</td>
<td>Brandon and Baker (1991)</td>
<td>When I'm angry or frustrated, I calm down. Cigarettes help me deal with stress.</td>
<td>Negative reinforcer/reduction of negative affect 0 (completely unlikely) to 9 (completely likely).</td>
</tr>
</tbody>
</table>
Table 1.2 displays several self-report scales that measure expectancies and motives that may be related to consumptive coping. Unlike most of the self-report scales from the traditional coping perspective (presented in Table 1.1), each questionnaire from Table 1.2 measures only one substance. Another difference is that items from the expectancy and motive perspectives appear to identify specific functions that consumption may serve. These functions go beyond the sentiment “to help me cope” that is evident in the coping measures presented in Table 1.1. For example, the coping subscale of the Drinking Motives Questionnaire (DMQ, Cooper et al., 1992) contains the item “how often do you drink to relax.” In another example, the Comprehensive Alcohol Expectancy Questionnaire (Nicolai, Demmel, & Moshagen, 2010), examines anticipatory tension reduction expectations of consumption by the use of agreement anchors with items such as “when I drink alcohol I can forget about my problems and worries.” Items such as these may capture more specific information about why people consume substances to help themselves cope. Although expectancies and motives are theoretically distinct from, and measured differently to, traditional perspectives on coping, they provide some further insight into consumptive coping that is not captured by traditional coping measures.

In summation, questionnaires developed from the motive and expectancy stance assess specific perceptions about the use of different substances. Coping frequently appears as one of the subscales within these measures. Expectancy and motive questionnaires also appear to identify some of the more specific reasons that people may consume to cope. However, they do not provide a means for parsimonious measurement of coping related to consumption of multiple substances within one scale. These measures are also general in nature and do not yield responses regarding a specific stressful situation. Nevertheless, the specific beliefs underlying
consumption that are identified in these measures allude to the complexity that is associated with coping oriented consumption.

1.3.3 Alternative perspectives. In addition to those aforementioned, there are other scales that may capture features of consumptive coping or similar variants of this construct, which are presented in Table 1.3. Although the scales presented in Table 1.3 do not explicitly measure coping motivated consumption with reference to a stressful event, the items point to a relationship between consumption and an individual’s internal psychological experience, particularly emotions. Items from these scales may provide valuable information in addition to the measures presented in Tables 1.1 and 1.2. For example, the Defense Style Questionnaires (Andrews, Singh, & Bond, 1993; Bond, 1992) include items that examine the capacity of food to make an individual feel better, and the use of alcohol or drugs in response to tension, or cigarettes in response to feeling nervous. The notion of consuming in response to emotions is also evident in scales in Table 1.3 that measure emotional eating. The questionnaires developed by de Lauzon et al. (2004) and Van Strein et al. (1986) examine eating in response to a range of emotional experiences, for example “when I feel blue” or “when things have gone wrong” or “when you are cross.” In addition, cigarettes may be perceived to improve emotions as evident in items from the Michigan Nicotine Reinforcement Questionnaire (Pomerleau et al., 2003) such as “I smoke to get a sense of pleasure or euphoria.” As these scales are general in nature, and are not designed with a focus on coping oriented consumption, there is scope for more specific examination of the role that emotions may play in consumptive coping.
<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Author/s and year</th>
<th>Subscale</th>
<th>Measurement format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense Styles Questionnaire</td>
<td>Bond (1992)</td>
<td>Consumption</td>
<td>1 (I totally disagree) to 9 (I totally agree).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Displacement</td>
<td>1 (I totally disagree) to 9 (I totally agree).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>0 (never) to 5 (always).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depression</td>
<td>1 (definitely false) to 4 (definitely true).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel blue).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel lonely).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel unhappy).</td>
</tr>
<tr>
<td>Michigan Nicotine Reinforcement Questionnaire</td>
<td>Pomerleau, Fagerstrom, Marks, Tate, Pomerleau (2003)</td>
<td>Emotional eating</td>
<td>1 (never) to 4 (always).</td>
</tr>
<tr>
<td>Three Factor Eating Questionnaire Revised Short Form</td>
<td>de Lauzon et al. (2004)</td>
<td>Emotional eating</td>
<td>1 (I often do this, when I feel anxious).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel depressed).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel lonely).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumption</td>
<td>1 (I often do this, when I feel unhappy).</td>
</tr>
</tbody>
</table>

Table 1.3: Questionnaires that Measure Consumptive Coping from Alternative Perspectives.
Psychological learning principles suggest that any substance may have the ability to modulate stress and associated emotions, due to positive and negative reinforcement effects (Grunberg, Berger, & Starosciak, 2012). A substance may in this sense act as a positive reinforcer through positive effects of consumption, or as a negative reinforcer through the capacity of consumption to remove perceived stress. However, the measure of nicotine reinforcement in Table 1.3 does not measure smoking to avoid or escape negative experiences such as stress (Pomerleau et al., 2003). Instead, it examines negative reinforcement with items focusing on nicotine withdrawal symptoms.

Although not explicitly measured by self-report questionnaires, neurobiological factors likely play a role in consumptive coping. There are complex neurobiological reward systems involved in the effects of nicotine (Richards et al., 2011), food (Adam & Epel, 2007), and other drugs (Grunberg et al., 2010) on stress regulation. For example, in the instance of food, a model of reward based stress eating asserts that psychological stress or threat response influences neuroendocrine factors (e.g., increased cortisol and insulin), which in conjunction with cognitive factors, impact on reward pathways in the brain and lead to stress induced food intake (Adam & Epel, 2007). However, examination of the influence of neurochemical systems on consumptive coping is beyond the scope of the current thesis.

Lastly, it is acknowledged that there is some overlap between consumptive coping and other constructs such as self-regulation and emotion regulation. According to self-regulation theories in their broadest sense (with respect to consumption), food, alcohol or cigarettes, etc are consumed as either self-regulatory failure (lack of self/impulse control), or as an intentional effort to regulate internal experiences. In this regard, coping is understood as efforts at self regulation when an individual
experiences distress (Carver, Scheier, & Fulford, 2008). Similarly, the concept of emotion regulation incorporates strategies for regulating a range of emotions, not limited to those elicited by stressful events (Aldao & Nolen-Hoeksema, 2010). Consumptive coping therefore remains a feature of, yet is conceptually distinct from, these broader constructs. This is largely due to the narrow focus of consumptive coping, which is specific to measurement of consumption as a conscious response to stressful events.

1.3.4 Summary of measurement of consumptive coping. The review that was conducted revealed that questionnaires developed from various perspectives assess the occurrence of coping related consumption. Coping measures tend to be quite broad, and measure consumption as one aspect within a general avoidance or substance use subscale. Other scales examine consumptive behaviour in the context of coping related expectancies, motives, or additional conceptualisations such as defense mechanisms. Although these scales provide useful information, they are either substance specific or are quite brief with regards to consumptive coping items. While it is acknowledged that a minimum of three items can be considered acceptable to measure a construct (DeVellis, 2011), comprehensive investigation into consumptive coping may have been circumscribed by existing measures which a) emphasise the behavioural act of consumption, or b) explore the general coping motive/expectancies for consumption of only one substance. There is a lack of questionnaires that assess consumptive coping in depth. A more specific examination of coping related consumption, accounting for consumption of multiple substances and how they are perceived to assist coping, is now required to further this research area. This aim is consistent with the suggestion that future research should investigate the specific motivations that underlie consumptive coping behaviours (Sarin & Nolen-Hoeksema,
2010). Further, identification of why individuals make use of substances to understand and deal with stressors may provide more useful information than the measures available to date, which typically examine only the frequency that consumptive coping is employed. Consistent with this stance, Pargament, Koenig and Perez (2000) argue that although assessment of various coping strategies is useful, it omits important information regarding the functional roles that these strategies play in coping. It is important to examine what individuals are trying to achieve when they behave in ways that can be described as consumptive coping. Research of this nature may be more advantageous than ascertaining the frequency that a coping strategy is utilised during a stressful event.

1.4 Rethinking Consumptive Coping

Despite the current knowledge state, there is a need to examine the specific reasons why some individuals increase consumption during stressful situations. Systematic analysis into why some individuals perceive that consuming food, caffeine, cigarettes, alcohol and/or other drugs helps them to cope during stressful situations is currently lacking. Lazarus (2006, p.123) stated, “we should have learned by now that the same act may have more than one function and usually does.” It is in accordance with this notion that the current thesis aims to deconstruct the broad emotion-focused and avoidant functions of consumptive coping. This may assist with gaining a clearer understanding of the cognitive processes that underlie this coping strategy. Previous research has also suggested that certain health behaviours (e.g., eating) may serve functions in coping other than the broad avoidance, emotion-focused categories (Ingledew, Hardy, Cooper, & Jemal, 1996). It is currently
proposed that there are more specific functions that consumptive coping can be perceived to serve. Subsequently, the overarching emotion-focused and avoidance functions typically used to classify consumptive coping can be broken down to subordinate or lower-order functions.

Functional approaches towards understanding and measuring health behaviours when used as coping strategies have been utilised in previous coping scales. For example, the Coping Functions Questionnaire (Ingledew et al., 1996; Ingledew & McDonagh, 1998) examines health behaviours (exercise, self care, and eating) when used as coping strategies and identifies five functions they may serve. These range from problem solving, time-out, avoidance, prevention and feeling better. In a different approach, the Functional Dimensions of Coping Scale (Ferguson & Cox, 1997) assesses the functions of approach, avoidance, emotion regulation and reappraisal for any coping strategies respondents qualitatively identify. A scale related to the specific functions of religious coping behaviours (e.g., to gain comfort and closeness to God) has also been developed (Pargament, Koenig, & Perez, 2000). Measures such as these focus on an individual’s perceptions regarding the varied functions that coping strategies may serve, and in doing so extend upon traditional coping measures.

The notion that psychology precedes physiology is paramount to a functional stance of consumptive coping. Accordingly, the physiological effects of substances are influenced by psychological factors such as beliefs and attitudes that motivate consumption (Jung, 2010). The effects that a substance has on the body (in its effect on behaviour or an individual’s psychological or physical experience) feeds back into the psychological processes that initiated its use, which in turn may be later associated with the use of the strategy on another occasion. In the context of consumptive
coping, perceptions about the specific functions that consumption serves may influence whether this coping strategy is utilised. Furthermore, as highlighted in the scales presented in Table 1.2, various substances can serve a particular function (e.g., cocaine, alcohol and marijuana may serve tension reduction), depending on the functional qualities attached by the individual. However, perceptions about the specific functions that substances may serve as a coping strategy has not been examined concurrently for food, caffeine, cigarettes, alcohol, or other drugs. It is possible that the perceived functions of consumptive coping are of equal or greater salience than the physiological effects of substances, but it is important to acknowledge that there is limited support for this notion.

Although not directly related to coping, a study that examined the placebo effects of caffeine may highlight the influence that psychological factors have on physiological effects of substances. Schneider et al. (2006) found a significant placebo effect on reports of subjective alertness among a group of individuals that believed they had consumed caffeinated coffee. Among the 10 males and 35 females with a mean age of 31 years that participated in the study, those who possessed a preconception about caffeine tended to report enhanced alertness even when the active agent was excluded. This research concluded that the observed placebo effects regarding subjective alertness were likely due to perceived benefits (based on learned experiences or stereotypes) about the effect of the substance. Although isolated to caffeine, these findings may suggest that psychological factors can play a large role in subjective experiences of consumption. Stated succinctly, Schneider et al. (2006) concluded that findings such as these, “point to the significance that psychological factors exert over and above pharmacologic effects” (p.338). In relation to the current thesis, if an individual perceives that food, caffeine, cigarettes, alcohol, and/or other
drugs will serve a particular function in helping them cope with a stressful event, it may be consumed for that reason, perhaps regardless of the varied effects that different substances have physiologically.

It is hypothesised that there are lower-order functions that underlie the higher-order emotion-focused and avoidant functions of consumptive coping. These specific functions are not innate to certain substances, but relate to perceptions of the individual and can apply to food, caffeine, cigarettes, alcohol and other drugs. It is anticipated that identifying these functions will reveal valuable information regarding how consumptive coping is perceived to assist with the avoidance of a stressor, or manage the internal experience of stress. Theory, research and existing measures of consumptive coping point to five functions. Consumption may therefore be perceived to serve the functions of escape/soothe emotions, physical relief, distraction from thoughts, time-out, and/or self-punishment, which will be discussed in greater detail.

1.4.1 Function one: escape/soothe emotions. Emotions are fundamental to the coping process (Lazarus, 2006). An emotion has been described as a feeling state (either positive or negative) that involves physiological arousal, subjective experience and affect (Burton, Westen, & Kowalski, 2012). With regards to coping, negative emotions are often generated when an event is appraised as stressful, which influences subsequent cognitive interpretations and coping strategies (Frydenberg, 2008). It is acknowledged that small levels of stress may sometimes lead to positive emotions such as excitement. However, unpleasant emotional experiences (e.g., fear, anger, sadness) are typically generated during stressful events (Lazarus, 1991). Therefore, a specific function of consumptive coping may be aimed at changing one’s emotional experience during a stressful event.
This function is consistent with escape theory (Baumeister, 1991; Heatherton & Baumeister, 1991; Sarin & Nolen-Hoeksema, 2010), whereby active avoidance behaviours (such as consumptive coping) play a role in regulating or escaping unpleasant emotional states. Escape theory proposes that stressful events and the resultant unpleasant emotional experiences may facilitate a state of aversive self awareness (Baumeister, 1991). As a result, consumption of a substance may provide a form of escape from this unpleasant internal experience, and shift focus away from the stressor and associated unpleasant emotions. Attention is focused onto the concrete features of the substance being consumed and the perceived effects of consumption. Escape theory has also been linked to binge eating and alcohol use (Blackburn, Johnston, Blampied, Popp, & Kallen, 2006; Heatherton & Baumeister, 1991; Hull & Slone, 2004; Sher & Grekin, 2006). In light of this, it is possible that consumption of any substance may assist with escaping from the unpleasant emotional experience precipitated by a stressful event. By facilitating escape from unwanted emotional states, consumption provides emotional relief, or may serve to soothe emotional distress. In line with this, learned affect regulation models of consumption assert that the perceived emotion regulating effects of substances are learned through experience (McCarthy, 1990). It has been suggested that food can promote positive affect as well as reduce negative affect and emotions (Levitan & Davis, 2010). Similar effects have been suggested for alcohol (Cooper et al., 1995) and other drugs such as marijuana (Simons et al., 1998), supporting the notion of an emotional escape/soothing function.

Various studies provide support for the theoretical connection between consumptive coping and emotions. In one such study, Whiteside et al (2007) found a link between consumption and emotions among a large non-clinical university sample.
that consisted of 284 males and 411 females with a mean age of 19 years. Results indicated that difficulties with emotion regulation explained a significant amount of variation in binge eating behaviours. Spoor et al. (2007) found that higher endorsement of emotion-oriented coping and avoidance coping was related to greater levels of emotional eating in eating among 125 women with an eating disorder with a mean age of 30 years, and 132 healthy controls with a mean age of 41 years. A recent study by Rousseau, Irons, and Correia (2011) also supported a link between emotions and consumption of alcohol. This study compared 44 adults in either a neutral or negative mood induced group (72% female), and utilised a laboratory method that allowed for establishing the point at which individuals chose an alcohol free alternative over an alcoholic beverage. Findings revealed that negative mood was significantly related to choice of an alcoholic drink among participants who endorsed drinking to cope (as measured by the Drinking Motives Questionnaire, Cooper, 1994). Lastly, as evident in Tables 1.2 and 1.3, others have also identified the important role that emotions play in consumptive coping by including emotion-oriented items in questionnaires that measure consumption for various substances (e.g., Brandon & Baker, 1991; de Lauzon et al., 2004; Doyle et al., 2011). Items such as these intimate the possibility of a specific function of consumptive coping that incorporates escaping from, or soothing, unpleasant emotions.

1.4.2 Function two: physical relief. Unpleasant physical/physiological sensations are associated with stressful encounters. Psychological reactions associated with the experience of stress are known to affect the autonomic nervous, hormonal and immune systems (Choplin, McCraty, & Cryer, 1997). Psychosomatic stress symptoms such as headaches, upset stomach, difficulty sleeping, butterflies in the stomach, increased breathing and tense muscles have also been reported in various
studies that explore the body’s reaction to stress (Aldwin, 2007; Herman & Lester, 1994; Patchen, 1970; Penley, Tomaka, & Wiebe, 2002). As stress impacts the body, it is possible that substances could be consumed to alleviate these sensations and dampen the physical aspects of the stress response (Grunberg et al., 2010).

Evidence for the relaxation-inducing or physical tension reduction properties of substance consumption is cited frequently in the literature, particularly in regard to smoking, drinking alcohol, and drug taking (Conger, 1956; Greeley & Oei, 1999; Halpern-Felsher, Biehl, Kropp, & Rubenstein, 2004; Jung, 2010; Nikcevic & Spada, 2010), and less often for eating (Macht, Haupt, & Ellgring, 2005). In addition, as evident in Table 1.2, scales that assess underlying reasons for use of various substances often have a tension reduction or relaxation subscale, emphasising physical relief or sedation (Brown, Christiansen, & Goldman, 1987; Schafer & Brown, 1991; Tate et al., 1994). Although some of these subscales incorporated physical and psychological factors in their conceptualisation of tension reduction (e.g., with specific reference to anxiety), in the current thesis this function will emphasise the reduction of unpleasant physical sensations. The second proposed function of consumptive coping therefore refers to consumption that aims to help the body relax and/or feel better, and relieve unpleasant physical reactions to a stressful event.

1.4.3 Function three: distraction from thoughts. Under stressful conditions, cognitive functioning is often impaired; thinking can become difficult, as can one’s ability to focus attention and retrieve memory (Nevid & Rathus, 2013). This is because the area of the brain that regulates cognitive abilities, the prefrontal cortex, is susceptible to the effects of stress, which can lead to compromised cognitive ability (Arnsten, 2009). The influx of thoughts associated with a stressful event compete with
working memory resources, thereby influencing an individual’s ability to perform at their typical cognitive level (Klein & Boals, 2001). Although stress tends to interfere with more complex cognitive tasks rather than those less complex (Klein & Boals, 2001), thoughts associated with a stressful event may feature prominently in one’s cognitive experience when stressed.

The content of stress-oriented thoughts may be associated with Lazarus and Folkman’s (1984) appraisals. Their transactional model asserts that an individual constantly appraises the nature of a stressful event while they employ strategies to cope with it. This involves thoughts about the potential for harm or loss, and the implications of the event for one’s wellbeing. Thoughts may also pertain to uncertainty about one’s capacity to manage or cope with the event. The content of these thoughts may in some instances be negative, particularly if the event is perceived as overwhelming, and may feature in an individual’s awareness when attempting to manage a stressful event.

During stressful events, an individual may therefore wish to direct attention away from unpleasant thoughts associated with the stressful event, perhaps via distraction techniques. Distraction involves focusing attention away from the source of anxiety or a stressor (Orford, 2001). As such, it is often considered a feature of avoidance coping (Kuo et al., 2006). While the term distraction may involve actual disengagement from the stressful situation, it also incorporates avoidance of thinking about the event (Larsen & Prizmic, 2004). Individuals who do not want to experience negative or unpleasant thoughts may engage in methods to distract from or suppress these thoughts (Wegner & Zanakos, 1994; Weszlafl & Wegner, 2000). Consumption of substances may act as one technique that could facilitate such distraction. For instance, Bates and Labouvie (2002) found that drinking alcohol was one coping
strategy aimed at diverting attention away from unwanted negative thoughts after a stressful situation. This finding was based on analyses of self-reports of over 1,000 males and females aged between 25 and 31 years. Others have also indicated that distraction may be related to consumption of substances through the inclusion of items that pertain to distraction from thoughts in consumption related scales (e.g., Carver et al., 1989; Cooper et al., 1992; Demmel & Hagen, 2003; Jackson et al., 2003). Consumption of a substance may thus preoccupy an individual’s attention or assist with focusing on things other than the stressor. In this way, consumptive coping is proposed to serve the specific function of distraction from thoughts, providing a means for volitional avoidance of unpleasant or unwanted thoughts.

1.4.4 Function four: time-out. It has been suggested that avoidant coping strategies may create a space for individuals to separate from the stressful event and re-group their internal resources (Aldwin, 2007). Accordingly, time-out is currently defined as a break, or time for rest, away from a stressful event. An individual may engage in consumptive coping because it assists them to briefly separate themselves from the stressful event. As mentioned previously, time-out has occurred as a function of coping behaviours in a previous coping scale: the Coping Functions Scale (Ingledew et al., 1996; Ingledew & McDonagh, 1998). In regards to consumptive coping, this scale only examined eating, and unhealthy eating as a coping strategy was found to be associated with the time-out function. This indicated that food may have been used by some individuals in efforts to serve this purpose. While this research provides some support for the notion that consumption of food as a coping strategy may serve a time-out function, it is possible that consuming other substances could also serve this purpose. Although research is limited in this area, examination of qualitative reports of six male and six female cigarette smokers with a mean age of 38
years revealed that achieving a time-out was one reason for cigarette smoking (Nikcevic & Spada, 2010). Furthermore, the notion of taking a “coffee break” when stressed is an everyday example of a substance serving a time-out function. It is possible that consumption of alcohol or other drugs could also occur with the intention of achieving a time-out from a stressful event. Thus, consumptive coping may be perceived to facilitate a time-out function for an individual, as this strategy involves disengagement with and removal of oneself from the stressful event.

1.4.5 Function five: self-punishment. Distinct from directly self-injurious behaviours (e.g., cutting), indirectly self-injurious behaviours such as drinking alcohol and substance use have been conceptualised as types of self harm (Nock, 2010). Although these behaviours can be engaged in for various reasons, it has been suggested that some individuals may engage in self harm as a vehicle for self-punishment for their perceived wrongdoing in a situation (Nock, 2010). Self harm behaviours have also been found to occur in response to stressful events (Nock, Prinstein, & Sterba, 2009). As such, it could be suggested that self-punishment is a possible function of consumptive coping.

Compared to the four aforementioned functions, there was less theoretical and empirical support for the functional capacity of consumptive coping with regards to self-punishment. Nonetheless, it has been suggested that some individuals tend to engage in non-suicidal deliberate self harm when they do not have alternative coping strategies for dealing with stressors (Haines & Williams, 2003). In addition, self-punishment has appeared in a coping measure, the R-COPE (Zuckerman & Gagne, 2003), wherein it featured as a subscale. Some individuals therefore use self-punishment as a strategy to cope with stressful events. It is possible that consumption
of substances may act as a mechanism for self-punishment, where the purpose of consumption is destructive and directed inward.

1.4.6 Functions of consumptive coping. In summation, five specific functions of consumptive coping are proposed; escape/soothe emotions, physical relief, distraction from thoughts, time-out and self-punishment. These functions are hypothesised to underlie the higher-order emotion-focused and avoidant functions served by consumptive coping. Rethinking consumptive coping in this way extends upon and refines current conceptualisations of the perceived functions of this strategy. It also provides an original framework for the measurement of the underpinnings of consumptive coping.

1.5 A New Measure and Investigation into Consumptive Coping

The present enquiry into consumptive coping will primarily focus on the development of a measure of consumptive coping, titled the Consuming to Cope Questionnaire (CCQ). In addition, transactional coping theory (Lazarus & Folkman, 1984) identifies variables that are pertinent for comprehensive analysis of coping. Accordingly, variables such as appraisals of the event, outcomes, and person factors will also be examined with the developed measure. Exploration of these variables in conjunction with consumptive coping may provide some useful insights into this phenomenon and the utility of the CCQ.

One method to investigate consumptive coping is through the development and validation of a new self-report measure. The CCQ will be multifaceted and will measure consumptive behaviour, as well as the perceived functions that consumption of substances may serve in the context of coping. Consistent with Lazarus and
Folkman’s (1984) transactional model, the CCQ will be a process-oriented measure of consumptive coping and thus will examine this strategy with reference to a specific stressful event.

Appraisals are a prominent feature of transactional coping theory as they highlight salient characteristics of a stressful event. In their seminal text, Lazarus and Folkman (1984) state that appraisals are a sign of the dynamic relationship between characteristics of the person and the environment in coping. Increased negative stress appraisals or perceptions of heightened harm, threat and uncontrollability of the event, have been associated with emotion-focused and avoidant coping strategies (Ben-Zur & Zeidner, 2012; Folkman et al., 1986). However, research to date has not yet examined the link between consumptive coping and appraisals. As such, this thesis will examine whether primary and secondary appraisals are linked to scores on the CCQ.

Consumptive coping may also be related to adverse psychological outcomes or experiences, such as psychological distress symptoms. As mentioned previously, Lazarus and Folkman’s (1984) model does not explicitly classify coping strategies as either adaptive or maladaptive. Only upon examination of contextual circumstances and transactions that occur in the coping process could the adaptive or maladaptive nature of a strategy and associated outcomes be determined (Lazarus & Folkman, 1987). However, in some instances psychological decline or distress may be associated with emotion-focused or avoidance coping strategies, such as consumptive coping. Holahan et al. (2005) conducted a longitudinal self-report based study among late-middle aged participants (500 females and 711 males). Findings indicated that avoidance coping at baseline (beginning of the longitudinal study) was associated with increased life stressors (chronic and acute) four years later, and greater
depressive symptoms ten years later. Other studies have also found associations between avoidance coping and unfavorable psychological outcomes, including decreased psychological wellbeing and anxious and depressive symptoms among males and females (Boals, VanDellen, & Banks, 2011; Christensen & Kessing, 2005; Grant et al., 2013; Iwamoto, Liao, & Liu, 2010; Kleinke, 2007; Penley et al., 2002).

In other research, Moulds et al. (2007) analysed survey data among a non clinical sample of 104 undergraduate students. Findings revealed that avoidance coping predicted unique variance in depression symptom scores, to a greater degree than anxiety and rumination. Collectively, the results of such studies may suggest that avoidance coping strategies could be associated with adverse psychological experiences.

It is acknowledged however, that the link between emotion-focused/avoidant coping and psychological distress (e.g., anxiety and depression symptoms) has been challenged psychometrically (Stanton, Danoff-Burg, Cameron, & Ellis, 1994). The link between negative psychological experiences and coping may be questionable, as the associations found in studies such as those abovementioned may be representative of psychometric issues inherent to the questionnaires used. More specifically, these criticisms relate to overlaps of item content and wording, which may be responsible for the observed link between emotion-focused/avoidant coping and psychological distress rather than the constructs themselves (Stanton et al., 1994; Stanton et al., 2000). For example, avoidance coping items that pertain to withdrawal from stressful situations may be similar to depression related withdrawal items. This psychometric limitation is perhaps best addressed in the interpretation of studies individually, and the measures used, rather than discounting the possibility of the reported associations entirely. It is possible that a reliance upon emotion-focused/avoidant coping strategies
may be associated with adverse outcomes in some instances, for certain individuals.
In this thesis, consumptive coping is not judged as inherently maladaptive, nor is it
hypothesised as causing unfavourable outcomes. However, the inclusion of outcome
variables such as depression, anxiety and stress symptoms, examined in conjunction
with the CCQ, may be crucial for developing a fuller understanding of consumptive
coping.

The widely applied transactional model also asserts the relevance of person or
dispositional factors in the process of coping. Although there are many person-
oriented variables that could be examined, an individual’s level of mindfulness may
be of particular relevance when examining consumptive coping. Mindfulness has
been defined as conscious awareness in the present moment (Kabat-Zinn, 2012).

Mindful coping refers to “awareness of one’s internal states as well as the effect one
is having on the problem and others in the environment” (Aldwin, 2007, p.356) For its
non-avoidant qualities, dispositional mindfulness may therefore be relevant in the
context of consumptive coping as a person factor that influences stress-coping
transactions. By means of laboratory-based, longitudinal and diary reporting methods,
four studies among college students (with sample sizes ranging from 65-141), found
that mindful individuals tended to make more benign stress appraisals, report less use
of avoidant coping strategies, and in two of these studies, report higher use of
approach coping strategies (Weinstein, Brown, & Ryan, 2009). It was also
demonstrated that these effects remained after controlling for personality variables
such as optimism and neuroticism. Mindfulness may therefore have unique effects on
stress and coping that are distinct from the influence of personality traits (Weinstein et
al., 2009). In other research, Palmer and Rodger (2009) found that higher mindfulness
was significantly negatively correlated with emotional and avoidant coping and also
perceived stress. Avoidant coping and perceived stress accounted for 38% of the variance in mindfulness scores. To date, these findings provide some support for the notion that mindfulness may be associated with responses to stress. Such research also implicates the importance of awareness/mindfulness in not only the understanding of coping, but perhaps also in the management of stressful situations. The current research will therefore explore whether mindfulness is associated with consumptive coping.

Insight into consumptive coping that may be obtained by the development of the CCQ has practical utility. In a psychotherapeutic context, enhanced understanding of consumptive coping may help psychologists and other allied health professionals to be more effective in assisting their clients to instigate change if necessary. Through identification of the perceived functions of consumptive coping, a measure such as the CCQ could assist with subsequent approaches to treatment. The information obtained by the CCQ could be incorporated into cognitive behavioural and mindfulness based treatment modalities, which often aim to counter avoidance (Moulds et al., 2007; Segal, Williams, & Teasdale, 2013). For example, mindfulness based psychotherapy encourages individuals to observe their internal experiences (i.e., thoughts, feelings and bodily sensations) and cultivate a willingness to experience discomfort and reduce attempts to escape it (Segal et al., 2013). Providing feedback about the perceived functions of consumptive coping may be vital to the process of modifying use of this coping strategy, whilst learning new skills to manage unpleasant internal experiences and develop an individual’s repertoire of coping strategies. As a tool to expand awareness and dialogue around the underpinnings of consumptive coping, the information obtained through the CCQ could enhance the success of therapeutic interventions that target this coping strategy.
In summation, comprehensive measurement of consumptive coping, and investigation of the relationship that this coping strategy shares with appraisals and unpleasant intrapersonal experiences such as depression, anxiety and stress symptoms is limited (Sarin & Nolen-Hoeksema, 2010; Sherbourne, Hays, & Wells, 1995). The construct of mindfulness may be another important factor that impacts on stress-coping transactions, and warrants specific analysis with consumptive coping. Development of the proposed scale, and the ensuing analysis incorporating the abovementioned variables will extend current understanding of consumptive coping. Such research is relevant on both practical and theoretical levels, due to the benefits associated with obtaining further knowledge of this coping strategy.

1.6 Rationale for Research and Thesis Aims

Emotion-focused and avoidant coping are arguably coping archetypes, upon which a great deal of research has been conducted. In contrast, relatively little is known about consumptive coping per se, as an independent phenomenon. Despite the number of studies that investigate this coping strategy within broader emotion-focused/avoidant coping typologies, the more specific functions that consumptive coping behaviours may serve are not yet clear. In addressing this discrepancy, the present research provides an innovative way to conceptualise, examine and measure the possible functions of consumptive coping.

As conceptualised in this thesis, the phenomenon of consumptive coping is similar to that examined by Sarin and Nolen-Hoeksema (2010), and the various coping measures discussed earlier, yet the current approach to consumptive coping is distinct in important ways. First, dispositional measures explore consumptive coping
in the context of a general coping style. Instead, the current study will explore this phenomenon from a process-oriented approach, with reference to a specific stressful event, consistent with Lazarus and Folkman’s (1984) transactional model. Second, the proposed measure will focus specifically on consumptive coping. Current questionnaires typically include items related to consuming substances to cope within a larger scale that examines a range of coping strategies, or explore substances independently among other general motives or expectancies regarding substance use. As such, current measures have inadequately measured this construct. The development of the CCQ presented herein aims to advance research into consumptive coping by measuring more than the consumptive behaviour itself, and also examining the perceived functions that underlie consumptive coping. This conceptualisation will be reflected in the developed measure, and is anticipated to provide a more comprehensive understanding of this complex phenomenon.

Therefore, the primary objective of the present research was to explore the phenomenon of consumptive coping, more specifically and different to previous research in this field. The aim was to expand upon existing knowledge of this particular coping strategy, and the functions it is perceived to serve for the many individuals who employ it. To achieve this, a new self-report questionnaire that measures consumptive coping will be developed and evaluated, before being tested for its reliability and validity in a large Australian sample. The central proposition of the current research is that the consumption of substances as a coping strategy is best understood through examination of the specific functions that underlie the consumptive behaviour in the context of coping. It is a focus of the current thesis to understand why people engage in this type of coping strategy, rather than measure coping actions or behaviour alone.
The developmental procedure of the CCQ was divided into three phases that collectively contributed to the overall goal of producing a reliable and valid self-report questionnaire that measures the functions that underlie consumptive coping. The first phase (Chapters 1 and 2) began the process of scale development through investigating the literature on the construct, designing the measure, screening the initial items, and pilot testing the questionnaire. This process aided construction of a sound measure, grounded in theory and evaluated through various content validity procedures. The second phase and first major study (Chapter 3) investigated the exploratory factor structure of the questionnaire within a large developmental sample. The internal consistency and validity of the scale was also examined at this stage of development. The third phase comprised the second major study (Chapter 4), which followed statistical procedures to confirm the factor structure of the questionnaire revealed in the previous study and further investigated the reliability and validity of the CCQ. This study also investigated the relationship of consumptive coping with relevant variables grounded in transactional coping theory, namely: appraisals, outcomes (e.g., depression symptoms), and a person factor (dispositional mindfulness).

Conducting this research allows further investigation into this important area of coping, a common feature of human existence, with a view to developing a useful measure of consumptive coping. It is anticipated that this measure will contribute to the knowledge base in this field, extending upon previous, albeit limited, research. Understanding the reasons that individuals engage in consumptive coping is expected to provide valuable information concerning not only what people consume to cope, but also why they consume to cope. Investigating the perceived functions of consumption during stressful events will fill an existing gap in the literature, and will
provide further insight into this complex phenomenon. This understanding could be incorporated into psychotherapeutic treatment in cases where there is a reliance upon consumptive coping. By conducting this research, it is anticipated that a critical contribution can be made to the area of consumptive coping.
Chapter 2

Construction of a Measure of Consuming to Cope
The construction of the Consuming to Cope Questionnaire (CCQ) followed a systematic procedure. As outlined in detail in this chapter this process was guided largely by seminal scale development texts such as those developed by DeVellis (2011), Pett, Lackey, and Sullivan (2003), and Spector (1992). Initially, a large item pool was generated to operationalise the five functions identified in the previous chapter; escape/soothe emotions, physical relief, distraction from thoughts, time-out, and self-punishment. Items therefore serve as the observed or empirical indicators of the theoretical concepts measured in a scale (Leeuw, Hox, & Dillman, 2008; Pett, Lackey, & Sullivan, 2003). Next, the specific measurement format for the items was determined, as were the scale instructions and supplementary questions. Finally, once constructed, screening procedures were undertaken to examine preliminary validity of the initial version of the CCQ. These procedures were necessary to prepare the scale for larger developmental analyses.

2.1 Content Validity and Scale Construction

Content validity is fundamental to scale development. It relates to a scale’s ability to accurately capture the construct that it aims to measure. Content validity therefore informs the development of items, and is linked to item sampling. For ideal item sampling, items of a scale are randomly selected from all of the potential items that represent the construct of interest (DeVellis, 2011). Determining the complete range of items that reflect the domain of a construct is difficult, especially when the construct is abstract. Constructs such as the perceived functions of consumptive coping are not directly measurable. In contrast to concrete constructs (e.g., family of origin and gender), it is more difficult to determine all possible items that represent
abstract constructs. The nature of the construct from which a scale is derived therefore influences the capacity to ascertain content validity. Nevertheless, attempts to increase the probability of content validity of a scale are an important component of scale development practices.

The establishment of content validity is further complicated by the absence of a universal protocol of guidelines regarding methods by which to assess content validity (DeVellis, 2011; Foster & Cone, 1995; Haynes, Richard, & Kubany, 1995). However, it is common for items of a scale to be assessed for content validity during initial stages of the scale construction process. Without early assessment of content validity, items that measure the same construct within a questionnaire may not display satisfactory covariance, and thus may not support the expected factor structure of a scale (Haynes et al., 1995).

Establishing whether a questionnaire is content valid is closely associated with the specific definition of the construct that a scale aims to measure. While there may be various conceptualisations of a construct proposed by differing theoretical perspectives, the content validity of any scale relates directly to the definition endorsed by the scale developer at the time of construction (DeVellis, 2011). It is for this reason content validity can be considered to be dynamic in nature, and may vary with modifications to the conceptualisation of abstract theoretical constructs, and their domains (Haynes et al., 1995). It is also important to acknowledge that data collected from a questionnaire that does not accurately represent the named domain and has not undergone careful content validity assessment, may be ambiguous or spurious. As a result, interpretations may be misleading, as variables could be over or under represented, or the scale might reflect other unintended variables rather than the desired construct (Haynes et al., 1995).
Content validity is relevant to every aspect of a questionnaire. Best practice suggests that each component of a measure should be constructed from the perceived content domain, with the intended purpose of the measure and the target population in mind (Aldwin, 2007; DeVellis, 2011; Haynes et al., 1995). According to Pett, Lackey, and Sullivan (2003), the clarity of the instructions and response formats also warrant examination from a content validity perspective. Bordering text (e.g., questionnaire instructions, response anchors, and supplementary questions) must clearly and appropriately frame the items in order to obtain the desired information. However, these aspects of a questionnaire are often excluded from content validation analyses of self-report questionnaires (e.g., Endler, Parker, & Summerfeldt, 1998; Ingledew & McDonagh, 1998; Pargament et al., 2000).

There is a noteworthy distinction between content validity and face validity, yet these terms have been used interchangeably in scale development literature (e.g., Muris & Merckelbach, 1996; Spada & Wells, 2008). Face validity refers to the perception that items of a scale appear to represent the target construct appropriately (DeVellis, 2011; Haynes et al., 1995). Scale developers, experts in the field or members of the target population, can make this judgment upon viewing a questionnaire. However, an instrument that appears to measure what it intends to is not necessarily content-valid. Face validity has subsequently been questioned in its capacity to measure validity (DeVellis, 2011). Despite this, it has been suggested that a face valid measure may be useful because it aids respondent cooperation due to ease of use and interpretation (Netemeyer, Bearden, & Sharma, 2003). Nevertheless, content validity procedures extend upon face validation by utilising structured item evaluation methods with expert judges (not involved in construction of the scale) (DeVellis, 2011). Thus, content validity is typically preferred to face validity, because
whether or not a scale encapsulates the desired content domain is assessed systematically, rather than solely on face value.

A limitation of content validity relates to its somewhat subjective nature (Kline, 2005). This issue is particularly relevant for content domains without explicit boundaries, such as the functions of consumptive coping. As mentioned previously, the attainment and accurate measurement of content validity is difficult in cases where the entire content domain is not clearly known (DeVellis, 2011). For intangible psychological phenomena it is especially difficult to objectively ascertain the entirety of items that may comprise the domain. Due to constraints posed by the nature of such domains in these cases, content validity becomes vague to some extent (DeVellis, 2011). For instance, the degree to which experts agree about a construct domain and facets of a construct is based on subjective interpretations rather than concrete observations (Haynes et al., 1995). This demonstrates that even in cases where definitions of abstract constructs are provided for content validity assessment, an element of subjectivity remains.

There are numerous ways to assess the content validity of a questionnaire. Formats vary from paper and pencil or interview (Haynes et al., 1995), to focus groups (Vogt, King, & King, 2004), or pilot testing of a scale (Popovic, Milne, & Barrett, 2003). Within each of these formats there are different qualitative and quantitative methods for testing content validity. The content validation procedures applied can therefore vary between studies. The most suitable content validation approach is best assessed on a scale-by-scale basis, where the responsibility falls upon the developer to decide upon the best techniques to implement for their particular scale (DeVellis, 2011). According to Haynes et al (1995), it is desirable to adopt an eclectic approach that incorporates more than one form of assessment for content
validation. Despite the absence of a gold standard for content validation procedures, and the subjectivity inherent to content validity assessment of abstract constructs, content validity is integral to sophisticated scale construction processes (DeVellis, 2011; Haynes et al., 1995). As such, content validity was vital to the construction of the CCQ and was systematically examined for each component of the measure. The CCQ was subject to rigorous analysis of content validity, incorporating the use of expert judges for item allocation and construct relevance tests, and also a pilot study, the details of which will be discussed later.

2.2 Generation of an Item Pool

Sound content validity would suggest that the developed items distinctly and comprehensively represent each of the five functions hypothesised to underlie consumptive coping. Items can facilitate the quantitative calculation of scores that represent a construct, and can be described as effect (reflective) indicators or formative (causal) indicators (Netemeyer et al., 2003). The former denotes items that are determined by the latent construct, whereby the construct accounts for differences in item endorsement (e.g., the consumptive coping functions that an individual endorses influences their responses to items). In contrast, formative items determine the latent construct, whereby scores on the items cause differences in the latent construct. Netemeyer et al. (2003) describe one example of formative indicators where items of different sources of stress (e.g., divorce, job loss, etc) produce the latent construct score of stress over the past year. Here, the items that denote sources of stress drive changes in life stress scores, not the reverse, as life stress does not produce sources of stress. Furthermore, formative items need not correlate to produce
the overall index score for the construct, whereas internal reliability is primary among
effect/reflective items. The difference between these two types of items is theoretical
and procedural, and for the current thesis effect or reflective items more suitably
characterise the nature of consumptive coping functions.

There are two major approaches for obtaining the content of items (Clark &
Watson, 1995; DeVellis, 2011; Hinkin, 1995). The deductive approach (also known
as theoretical-rational, logical partitioning, or classification from above) refers to the
process whereby items are derived from knowledge in the literature on the construct.
Conversely, the inductive approach (also known as grouping or classification from
below), typically involves minimal theory in the initial generation of items, which are
primarily devised from qualitative feedback with members of the target population.
Most scales are developed via the deductive approach, where, with guidance from the
literature, scale developers generate items to depict the content domain/s of interest
(DeVellis, 2011). For the CCQ, item content was primarily obtained via the deductive
method, based on the literature review and the five functions that were hypothesised
to underlie consumptive coping as outlined in Chapter 1. Table 2.1 contains
descriptions of these constructs. Self-report measures that adopt a functional approach
towards the measurement of coping strategies were also consulted in the process of
item construction (Ferguson & Cox, 1997; Ingledew & McDonagh, 1998; Ingledew,
Hardy, Cooper, & Jemal, 1996; Sarin & Nolen-Hoeksema, 2010). Several keywords
present in the items from these questionnaires were also utilised in some of the items
developed for the CCQ.
Table 2.1

*Descriptions of the Hypothesised Functions*

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escape/soothe</td>
<td>Consumption motivated by the function it serves to alleviate the impact of unpleasant emotions. An individual perceives that consumption of food, cigarettes, caffeine, alcohol, and/or other drugs helps to soothe, avoid, and escape difficult emotions. The purpose of consumption is to relieve unpleasant emotions that one experiences during a stressful situation.</td>
</tr>
<tr>
<td>Physical relief</td>
<td>Consumption motivated by the function it serves to reduce tension experienced in the body. An individual perceives that consumption of food, cigarettes, caffeine, alcohol, and/or other drugs helps to ease the physical manifestations of stress. Consumption assists the body to relax and eases unpleasant somatic sensations experienced during a stressful event.</td>
</tr>
<tr>
<td>Distraction from thoughts</td>
<td>Consumption motivated by the function it serves to distract from thoughts about a stressor. An individual perceives that consumption of food, cigarettes, caffeine, alcohol, and/or other drugs helps to direct attention away, or disengage, from stressful thoughts. Consumption interrupts thoughts that pertain to a stressful event.</td>
</tr>
<tr>
<td>Time-out</td>
<td>Consumption motivated by the function it serves to take a time-out from the situation in order to re-group ones internal resources. An individual perceives that consumption of food, cigarettes, caffeine, alcohol, and/or other drugs helps to create a space away from the stressful event. Consumption generates this break or time-out from the event for the individual.</td>
</tr>
<tr>
<td>Self-punishment</td>
<td>Consumption motivated by the function it serves to punish oneself. An individual perceives that consumption of food, cigarettes, caffeine, alcohol, and/or other drugs punishes the self for the role he/she had in the stressful situation. Consumption provides a means for reprimanding the self as a way to cope with the event.</td>
</tr>
</tbody>
</table>
Lists of items were generated to represent each of the hypothesised latent variables presented in Table 2.1. Throughout the process of item construction the following criteria regarding what constitutes good versus bad items was considered. Items were constructed and adjusted as necessary to ensure simple and straightforward language was used which would be appropriate for the average reading level of members of the general population (Clark & Watson, 1995; DeVellis, 2003; Netemeyer et al., 2003). In addition, colloquial language and double barreled items (those which tap into more than one construct) were not included (DeVellis, 2011). It was important that each item depicted one clear idea only. Items that were deemed complex or lengthy were simplified to ensure clarity and ease of understanding. The aim was to use clear language. This is because confusion affects the heterogeneity of interpretations and thus, the consequent responses to items (DeVellis, 2011).

Negatively worded items were also considered. Negatively worded items are those that characterise absence, or only a small amount, of the construct of interest (DeVellis, 2011). The inclusion of both negatively and positively worded items that measure the same construct in a scale has been one way that researchers have attempted to combat response bias (Marsh, 1996). Such items aim to avert participants from responding to items regardless of the content. However, the utility of negatively worded items is contentious. It has been suggested that such items may be useful and assist identification of inconsistent responses made by respondents that are not motivated to provide reasoned, honest responses (Barnette, 2000). Alternatively, negatively worded items may be confusing for respondents, particularly in long questionnaires (DeVellis, 2011). While some respondents recognise the change in wording, others may not. Marsh (1996) explained that in order to respond
appropriately to negative items, respondents may have to invoke a double negative logic that requires a higher level of verbal reasoning than that required by positive items. If this logic is not appropriately employed, respondents may give an answer that has a meaning opposite to that of their intended response. Research has shown that children, adults, and older adults can experience difficulties with reverse worded items (Carlson et al., 2011). Furthermore, negative items often perform poorly and have lower reliability, and may load together to potentially affect the factor structure of a scale (Barnette, 2000; Netemeyer et al., 2003). Homogeneity is often impaired in scales with both positive and negative items, and combining these types of items has been recommended against (Roszkowski & Soven, 2010; Schweizer & Schreiner, 2010). Negatively worded items were therefore not incorporated in construction of items for the CCQ, and exclusion of negatively worded items was not deemed to impair representation of the content domains.

Item redundancy is another important consideration in the process of item generation. DeVellis (2011) argues that useful redundancy is valuable in early stages of scale development, in contrast to useless redundancy. Useless redundancy is described as where items differ only on incidental aspects, such as “the” or “a” or a single word. It has been suggested that items with useless redundancy may contribute to the attenuation paradox by increasing internal consistency to the point where validity is not enhanced (DeVellis, 2011; Netemeyer et al., 2003). In contrast, useful redundancy exists in items that convey the actual content associated with the targeted construct in similar ways, through use of different words and grammatical structure. For example, the items “to reduce tension in my body” and “to stop tension from building up in my body” are considered to usefully convey content in similar ways, opposed to the items “to reduce tension in my body” and “to decrease tension in my
body” which differ only in incidental words that comprise the items. DeVellis (2011) states that through useful redundancy, the common content among items will be revealed and content validity will be established for reasons other than shared wording. The item pool for the current scale was carefully generated with the distinction between these types of redundancy in mind. Items were created based on characteristics of useful, rather than useless items. Nevertheless, it has been suggested that a certain amount of redundancy is typical of initial item pools (DeVellis, 2011; Netemeyer et al., 2003).

It was also important that the initial item pool contained a manageable, yet adequate number of items representing each factor. DeVellis (2011) notes that the initial item pool should contain more items than what is expected of the final scale. However, there are no exact rules for how much larger the item pool should be (Netemeyer et al., 2003; Pett et al., 2003). DeVellis suggests that three or more times the expected scale size is sufficient, and Pett et al. (2003) propose that 10 to 15 items per subscale may be adequate for multidimensional scales. Response burden is also related to the number of items in a measure, particularly if the goal is to obtain data in one sitting. Too few items may not capture the construct, while too many may tire the respondent, and consequently responses may be compromised and potentially invalid (Pett et al., 2003). It has been recommended that broader content areas should generally be represented by more items rather than narrower content areas (Clark & Watson, 1995). For the current measure, this informed the decision to include a smaller number of items that represented the exploratory scale of self-punishment, compared to the four other functions.

In summation, the items for the initial pool of the CCQ were devised from the following process. First, there was a thorough examination of the literature/theory to
identify the constructs of the measure, i.e. the five functions that underlie consumptive coping (outlined in Chapter 1). Previous scales that have examined the functions of coping strategies were also examined. Extensive lists of items (sentences, phrases and words) were then drafted to represent each of the five factors. These items were then edited and/or deleted in accordance with the aforementioned guidelines associated with well-written items, negatively worded items, redundancy and appropriate size of the pool. The final draft of the initial item pool consisted of 20 items for each of the functions; escape/soothe emotions, physical relief, distraction from thoughts, and time-out, and 10 items for self-punishment. Appendix A contains a list of the 90 items generated in total for the preliminary item pool of the CCQ.

2.3 Measurement Format

After construction of the initial item pool, the format for measurement was determined. There are various types of response formats for self-report scales, ranging from semantic differential, visual analog, dichotomous/binary or Likert and Likert-type scales (DeVellis, 2011). Items can be ordered or weighted as with Guttman or Thurstone scaling, or they can have equal weight as with Likert and Likert-type scales. Likert and Likert-type scales are a common measurement format of coping scales (evident in Table 1.1 from the previous chapter). Developed by Likert (1932), items are rated and summated and can be applied to the measurement of attitudes, perceptions, opinions or beliefs. Dichotomous response formats have also been used to measure coping, and often yield similar results to multiple point scales (Clark & Watson, 1995). However, Likert and Likert-type scales offer certain advantages. These scales allow for more variance in comparison to dichotomous formats which
require a larger number of items to produce scale variance equivalent to that of Likert scales (Netemeyer et al., 2003). In contrast to dichotomous and traditional Likert scales, there is more flexibility in the wording of Likert-type scale anchors, as the researcher is not restricted to the yes/no or true/false options of dichotomous scales, or the strongly agree to strongly disagree anchors of traditional Likerts. Different categories of labels include frequency, degree or extent, similarity, or how true items are of the individual (Clark & Watson, 1995). However, the content of the items and the purpose of the questionnaire determine the most appropriate form of anchor label.

The CCQ aims to assess reasons for consumption (the functions that consumption serves for the respondents). It was deemed preferable to have anchors that assess the perception of how true these functions are of participants. This was selected instead of anchors that assess whether participants agree/disagree that a reason for consumption applied to themselves, or the frequency at which a function is endorsed. Of interest to the present study was the degree of presence of each item or how true each item was of respondents. Therefore, suitable anchor labels would be unipolar in nature, rather than bipolar. The number of anchor points and whether or not to include a mid point was also considered for the CCQ. A scale with an odd number of points allows for a midrange rating of an item, or otherwise for an unsure/uncertain option (Clark & Watson, 1995). In contrast, scales with an even number of points force respondents closer to one end of the scale or the other. In addition, Clark and Watson (1995) state that scales with large numbers of anchor points (for instance a 9-point scale), may introduce an element of random responding and therefore error, which may compromise the validity of responses. A smaller, 5-point Likert-type scale is common (DeVellis, 2011), and was selected for the CCQ.
The Likert-type scale developed for the CCQ ranged from 1 (not at all true of me), to 5 (extremely true of me). The mid point was labelled 3 (moderately true of me). Although points 2 and 4 on the Likert-type scale were labelled numerically, they were not labelled with descriptive text. This was an alternative to labeling point 2 with text such as somewhat, a little, slightly, or occasionally, etc, and point 4 with text such as a lot, greatly, very, or quite a bit, etc. It has been suggested that labeling all anchors becomes more important for Likert-type scales with a large number of response options (e.g., 7, 8, or 9-points, rather than 5) (Weng, 2004). Although there are arguments for only labeling the end points in coping scales (Flynn, Schaik, & Wersch, 2004), one key criticism is the lack of specificity associated with a blank mid point (Weng, 2004). This issue was avoided for the CCQ because the mid point is labelled, so respondents do not have to speculate on its meaning.

2.4 Determining Scale Instructions

Instructions provide the direction for completing a questionnaire, and outline the construct being measured in order to reduce error and support content validity (Spector, 1992). The instructions should therefore reflect the latent variable, and the purpose of the scale (DeVellis, 2011). When stated clearly, instructions should facilitate common understanding of the task among potential respondents. Scale instructions should also present what is being measured in a neutral fashion (Pett et al., 2003).

Upon composition of the instructions for the CCQ item pool it was evident that supplementary questions were necessary. These additional questions precede the core item pool, and frame the focus of the scale in accordance with the theoretical
stance of the research. These questions relate to the stressful event and also to consumption of substances during that time. Each of these supplementary questions will now be discussed in their sequential order of appearance in the CCQ.

2.4.1 Supplementary question 1: a recent stressful event. Approaches towards the measurement of coping were outlined in the previous chapter. Coping researchers may assess how an individual copes (in general) when stressed, or they may examine how an individual coped with a specific stressful situation. The current thesis adopted the latter process-oriented approach to coping measurement. As the distinction between a stylistic or process approach is typically conveyed by the scale instructions (Aldwin, 2007), the CCQ therefore first asks respondents to identify and briefly describe a recent stressful situation.

The time frame within which the stressful event occurred was also included. According to the process approach to coping, the time frame is often recommended to be within the previous week or month (Aldwin, 2007). Some researchers have extended this time frame to the past six months (Amirkhan, 1990; Folkman & Lazarus, 1988). Research into memory recall/episodic memory decay typically reveals that the more recent the event took place, the more reliable, valid and unbiased the recall is (Todd et al., 2004). In general, the longer the delay since the event, the more likely the recall will be of coping styles (general perception/beliefs of coping behaviours) rather than actual coping process (Todd et al., 2004). Todd et al. (2004) also found that avoidance coping appears to show the most discrepancy when contrasting daily to retrospective recall. As the current research is looking at one emotion-focused/avoidant coping strategy rather than the entire spectrum of possible coping behaviours, recall of a stressful event that occurred in the past month was considered satisfactory (as the focus of recall is quite specific). This was also
preferred to shorter time frames due to practical implications for sampling of stressful events. If the designated time frame was within the past week or fortnight, this may decrease the proportion of respondents that experienced a very stressful event. Accordingly, the instructions for this supplementary question are as follows:

*In life, different situations can be stressful. Within the past month,*

think about the last time you felt the most stressed? Please briefly
describe this situation that caused (or still causes) you stress...

**2.4.2 Supplementary question 2: perceived stressfulness.** A question was included to obtain data on the perceived stressfulness of the situation. Questions that obtain such information about a stressful event are common in process oriented coping scales (Amirkhan, 1990; Folkman & Lazarus, 1988; Kowalski & Crocker, 2001). Perceived severity of the problem is relevant because it highlights “the mismatch between environmental demands and individual resources” (Aldwin, 2007, p. 33). To assess this via the CCQ, a single item measured by a unipolar Likert-type scale followed immediately after the respondent described his/her stressful situation. Accordingly, respondents were asked to rate how stressful the situation was for them. A 5-point Likert-type scale that ranges from 1 (*a little bit stressful*) to 5 (*extremely stressful*) was devised. The mid point was labelled 3 (*moderately stressful*). This allows the perceived stressfulness of the situation to be examined in post hoc analyses if desired. Moreover, because this is the first time that consuming to cope has been assessed in such detailed fashion via questionnaire format, this information may prove useful in refining understanding of this phenomenon (e.g., to explore whether a link between perceived stressfulness and consumption exists).

**2.4.3 Supplementary question 3: change in consumption.** Information about the consumptive behaviours of respondents was also obtained (despite the fact
that actual substance consumed is not the primary focus of the current research). Of interest to the present research is not exactly how much was consumed, but whether there was a change (decrease or increase) in what was considered typical consumption for an individual. Consuming to cope implies a change in behaviour, and consumption as a coping strategy is different to consumption as usual. In such an instance, there is an increase in consumption (of any substance), as a direct effort to cope with a stressful event. It is thus an increase in consumption that is pivotal to the current analyses. The instructions for this supplementary question are as follows:

People react to stressful situations in many different ways. Some people find that the amount of food, caffeine, cigarettes, alcohol or other drugs they have, changes when they feel stressed. Thinking about what you did at the time of the stressful situation you just described, please select one response for each of the following statements.

As evident in the above instructions, five categories/ types of substances were used to assess changes in substances consumed. These were food, caffeine, cigarettes, alcohol, and other drugs (such as ecstasy, painkillers, marijuana, etc). It was considered appropriate to condense the final category (other drugs), as it was likely that a smaller proportion of respondents would use these compared to the other substances. Also, there may be legal implications which could influence the honesty of responses of participants who do not want to disclose illegal activity. This would also allow for a shorter parsimonious scale, which would adequately serve the current purpose. A 5-point bipolar Likert-type scale was deemed the most suitable format for collection of this information. Following the phrase “Compared to when I don’t feel stressed, at the time of this stressful situation I…” participants rated each of the five categories of substances as to whether (during the stressful situation) they consumed;
1 (a lot less than usual), 2 (a bit less than usual), 4 (a bit more than usual), or 5 (a lot more than usual). The mid point of the Likert-type scale allows respondents to indicate that consumption remained the same during the stressful situation, or that they never consume a particular substance. It was labelled 3 (the same as usual/never). All points were labelled due to the bipolar nature of the measurement scale. At the end of this supplementary question, the instructions direct respondents who reported an increase their consumption (of any substance) onto the core item pool. Respondents who either decrease consumption or stay the same on all substances, are instead directed to other measures included in the test battery, or thanked for their participation.

### 2.4.4 Instructions for the core item pool

Once the content domain for the scale under development was framed (by way of the supplementary questions), the instructions for the core item pool were devised. The following instructions were established with the focus of the questionnaire in mind, and the supplementary questions that precede the core item pool:

*Think about what you had more of (than usual) when you experienced your stressful situation. We are now interested in why you had more. Below is a list of some of the reasons people may have for eating food, drinking caffeine or alcohol, smoking cigarettes, or taking other drugs when they feel stressed. Please select the number that best shows how much each reason applied to you, regardless of whether it worked or not. It is ok to switch between food/caffeine/cigarettes/alcohol/other drugs as you go through the list - just answer how true each reason was for you whether it relates to all, some, or only one of the things you had more of than usual during your stressful situation.*
I had food/caffeine/cigarettes/alcohol/other drugs in the course of the stressful situation I described earlier... (Example item: to get away from emotions that bothered me).

As evident in the above instructions, respondents are instructed to answer how true any item was for themselves, regardless of whether it applied to one or more than one of their nominated substances, and regardless of whether it worked or not. This is in accordance with the principal focus of this thesis, that why something is consumed in order to cope may reveal more useful information than what is consumed in order to cope. It is also consistent with the notion that the perceived functions or purpose that underlies use of a coping strategy is separate from the outcome or effect obtained (Lazarus & Folkman, 1984). The items of the CCQ are presented after these instructions, and participants respond to the list of statements that comprise the core item pool with their nominated stressful event in mind.

For initial development purposes, a qualitative question was included at the end of the core item pool that examines whether there were any other reasons for consumption that were not mentioned. This brings an inductive aspect to the primarily deductive approach taken towards development of the current scale. In support, Leeuw et al. (2008) suggest that a qualitative, open ended question at the end of a scale during initial development stages is useful for obtaining new items that did not arise during the initial construction phase. This may assist with ensuring that the functions of consumptive coping are assessed thoroughly, and there is flexibility for revisions or additions to the initial pool if required. It is therefore not assumed that the initial item pool encapsulates every aspect of the content domains. Appendix B contains a copy of the supplementary questions, instructions and measurement format as they appear in the CCQ.
2.5 Initial Item Screening

Prior to administering the CCQ to a large development sample, further examination of the items was required. Different methods can be employed to assess content validity through the use of expert judges, members of the target population and pilot studies. Researchers may use statistical procedures such as the content validity index (Lynn, 1986), while some use theory alone to develop scales, without any specific methods to test content validity (e.g., Foa, Kozak, Salkovskis, Coles, & Amir, 1998). Others have assessed content validity via qualitative means only (e.g., Stice, Telch, & Rizvi, 2000), or through only one expert judge (e.g., Ottenbreit & Dobson, 2004). As mentioned previously, systematic content validation procedures are important because these assessments may lead to retention or deletion of items, or alterations to the instructions of a questionnaire. Best practice in this area is likely to incorporate more than one type of content validity assessment, utilising groups of expert judges who were not involved in the development of the scale.

The process undertaken for examining the content validity of the CCQ was adapted from various scale development resources (DeVellis, 2011; Haynes et al., 1995; Pett et al., 2003; Spector, 1992). A three-step procedure was followed that involved two groups of expert judges and also members of the target population. Firstly, psychology academics and PhD candidates completed an item allocation task. Secondly, psychologists with experience working in a psychiatric hospital setting completed a construct relevance task. Thirdly, members of the target population were involved in a pilot study that assessed practical factors associated with responding to the CCQ.
2.5.1 Item allocation. Expert judges can be used to confirm or invalidate constructs measured by items of a scale (DeVellis, 2011). Accordingly, item allocation tasks, where judges report which subscale they believe each item belongs to, are frequently utilised as a content validation technique (Cyders et al., 2007; Jay & John, 2004; MacKenzie, Podsakoff, & Fetter, 1991). The results of item allocation may reveal items from the pool that are not prototypic of the targeted content domain. Item allocation also highlights differences in interpretations of the items (DeVellis, 2011). If addressed during early stages of scale development, such error can be avoided before target participants complete the questionnaire in large sample scale development studies. Item allocation sorting procedures assess content validity in a simple way (Hinkin, 1995). Given the straightforward procedures, item allocation may be particularly useful when dealing with a large item pool, such as the 90-item CCQ.

According to Carretero-Diaz, Perez and Buela-Casal (2009), the results of item allocation tasks can assist with the retention, alteration or deletion of items. However, there are no set guidelines for the item retention cut-offs. Different suggestions for item retention rates range from correct allocation by at least more than 50% or 60%, up to 100% of raters, with around 75% or 80% often the consensus (Hardesty & Bearden, 2004; MacKenzie et al., 1991; Pargament et al., 2000; Thorn & Deitz, 1989). For the current analyses, 85% agreement among raters was used as the cut-off for an item to be retained. Examination of level of agreement reveals whether items are interpreted in a consistent manner. However, inter-rater agreement percentages must be interpreted carefully. Percentage agreement may reveal high/overrepresented estimates (as it does not account for the element of chance in agreement).
A minimum of five judges is typically preferred for content analyses (Netemeyer et al., 2003). For the current assessment 20 judges (14 psychology academics and 6 psychology PhD candidates) were given item allocation forms, and provided with envelopes to anonymously return the forms. The only identifiable information collected was whether an academic or PhD candidate completed the form. Judges were presented with a randomly ordered list of items that comprise the initial item pool. They were also provided with a definition of each of the subscales. Their task was then to categorise the items into the scale they believed it belonged to.

The current item allocation task also included a don’t know category. This can be selected if judges feel an item does not reflect any particular subscale, and subsequently are not forced to select an option that most closely fits. The don’t know category may thus reveal any ambiguous items. Space was also provided for qualitative comments about the wording or content of items, or for the addition of other items. Appendix C includes a copy of the instructions, definitions and item allocation forms provided to the expert judges.

Of the 20 item allocations forms sent out, 13 were returned, and included in subsequent analysis. Seven were from academics and six from PhD students. The judges did not make any qualitative comments about the items. Forty-three items were correctly allocated by 100% of the judges. Another 29 items were correctly allocated by 92% of judges. Nine items were correctly allocated by 85% of judges. These 81 items were automatically retained.

There were nine items that did not meet the predetermined criteria. Agreement on item allocation was less than 85% for the items; “to avoid dealing with the situation right away”, “to have some time for myself”, “to help me rest”, “to help me sleep”, “to get away from my unpleasant thoughts”, “to change the focus of my
attention”, “to cover up my true emotions”, “to take some time out to escape reality” and “to escape from stressful thoughts.” These items were each deemed to be vague or overlapping of other content areas, and non-prototypic of the desired content domain. For example, the item “to avoid dealing with the situation right away” was placed as prototypical of three different scales by judges. While 54% of judges allocated this item into the time-out subscale, the remaining 46% allocated it into either distraction or escape/soothe emotions. Retaining these items may be detrimental to the factor structure of the CCQ. These nine items were therefore deleted from the initial item pool due to their ambiguity, and the fact that they potentially tap into content area of more than one function.

It is acknowledged that other statistical methods can be used in conjunction with percentage agreement values. For instance Cohen’s kappa (for cases of two raters), or Fleiss’ generalised Pi coefficient (for cases of multiple raters that are not constant across ratings) can be calculated to examine the overall probability of inter-rater agreement due to chance (Banerjee, Capozzoli, McSweeney, & Sinha, 1999; Gwet, 2008). Average pair-wise agreements could also be calculated (Davies & Fleiss, 1982). For the current analyses, placement of the individual items was of primary interest, and percentage agreement was able to flag items that required closer examination, by highlighting those that potentially overlap with, or tap into other constructs. Any decision to retain, revise or delete an item was made after careful consideration of its qualitative elements, rather than sole reliance upon statistical methods. In support of such an approach, DeVellis (2011) states that irrespective of statistical procedures applied to assess the content validity of items, ratings of abstract constructs still possess a subjective element, and the decision to retain or delete items is ultimately up to scale developers (DeVellis, 2011).
2.5.2 Construct relevance. Another method for assessment of content validity involves obtaining expert judges ratings of the relevance of each item with respect to the definition of the construct they aim to measure (DeVellis, 2011). To assess construct relevance, items are listed under their subscale headings. Judges rate each item as possessing high, moderate or low relevance with respect to the construct measured by the scale. The format for measurement varies across studies, and different Likert-type scales are employed, however measures of item relevance and/or item representativeness are common (Netemeyer et al., 2003). Such review of items has been suggested as particularly useful if the measure under development consists of multiple scales that examine different though related constructs (DeVellis, 2011). This is arguably the case for the CCQ.

Similar to the evaluation that was undertaken of item allocation forms, there are no precise rules for retention or deletion of items when using this method. DeVellis (2011) described construct relevance without any specific instructions as for how the results inform retention, deletion or modification of items, instead stating that it is up to individual scale developers. However, others have proposed that items be deleted if they are rated as moderately relevant or less by more than one rater (Hardesty & Bearden, 2004). For the current analyses, this criterion was used to identify items that may be considered for deletion. In regards to the number of judges required, a minimum of three has been suggested as adequate (> 10 unnecessary) for content relevance procedures (Lynn, 1986).

The remaining 81 items of the initial item pool were submitted to a panel of 10 judges. These judges were registered psychologists with experience working in inpatient/outpatient psychiatric and drug and alcohol hospital settings. The judges were given the construct relevance forms with a reply paid envelope. Whilst rating
items, judges were asked to make any comments, edit or add items to the list. Appendix D includes a copy of the instructions, definitions and construct relevance forms provided. Participation was voluntary and anonymous. Of the 10 sent out, six were returned and included in the analyses. All 81 items were evaluated as highly relevant by at least five judges and as a result this process did not lead to the elimination of any items. Specifically, 42 items were rated as highly relevant by all six judges. The remaining 39 items were rated as highly relevant by five of the six judges. Lastly, judges did not make any qualitative comments, add new items or propose any changes to the included items. This may indicate that the judges generally had similar interpretations of the scales and how relevant the individual items were to the construct domains.

2.5.3 Pilot study. In addition to obtaining expert judgments on items, members from the target population were also involved in content validity analyses. Pilot testing the CCQ allowed for the examination of the items and instructions with the target sample, in efforts to identify aspects of the questionnaire that are not clear or easily misunderstood. Open-ended content validity questions throughout this process facilitated additional comments about the CCQ from the perspective of the target sample. There was also a need to examine whether participants who reported that they consume to cope followed directions correctly and completed the core item pool, in contrast to participants that did not endorse consumptive coping, who are directed to omit the core item pool. The average duration of time it took to complete the questionnaire was also investigated. Lastly, a qualitative question was included at the end of the core item pool, which aimed to elicit any additional functions that consumptive coping may serve that were not included in the pool. The pilot study approach to the assessment of content validity was based on similar methods.
described by others (Carretero-Dios et al., 2009; Clark & Watson, 1995; Pett et al., 2003; Stice et al., 2000). Appendix E contains a copy of the content validity questions included in the pilot study. Ethics approval for this research was granted by the Australian Catholic University Human Research Ethics Committee (ethics registration number V2010 116, see Appendix F).

A suitable sample size for the pilot study was decided a-priori. Pett et al. (2003) states that an appropriate sample size for a pilot study is one tenth of the size aimed for the major study/developmental sample. As the sample size was expected to be approximately 500 for the major studies, the desired number of participants was 50. An advertisement for the research was placed on a social networking website (http://www.facebook.com). The advertisement asked participants whether they were interested in completing a survey on coping. Potential participants clicked the link on the advertisement, which then automatically directed them to the website that hosted the online questionnaire (http://www.psychdata.com). Participation was anonymous and voluntary. Informed consent was implied by full completion of the questionnaire, and participants were informed of their right to withdraw at any point. Participants were first presented with a copy of the information letter (see Appendix G) then a demographic questionnaire (see Appendix H), prior to the CCQ. In total, 195 participants commenced the questionnaire. Of these individuals only 52 completed all questions. The pilot study sample consisted of respondents between the ages of 18 to 82 years ($M = 31, SD = 13.88$). Twenty-eight males and 25 females participated. Table 2.2 displays additional demographic characteristics of the sample.
Table 2.2

*Frequency Distribution of Demographic Characteristics of the Pilot Study Sample*

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Frequency</th>
<th>Total %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>18</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>TAFE (Technical and Further Ed)</td>
<td>13</td>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>Tertiary (undergraduate)</td>
<td>15</td>
<td>29</td>
<td>89</td>
</tr>
<tr>
<td>(postgraduate)</td>
<td>6</td>
<td>11</td>
<td>100</td>
</tr>
<tr>
<td><strong>Work status:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>9</td>
<td>17</td>
<td>59</td>
</tr>
<tr>
<td>Employed</td>
<td>22</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Employed student</td>
<td>12</td>
<td>23</td>
<td>82</td>
</tr>
<tr>
<td>Unemployed</td>
<td>4</td>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>Stay at home parent or carer</td>
<td>5</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td><strong>Relationship status:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>24</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Not living with partner</td>
<td>13</td>
<td>25</td>
<td>71</td>
</tr>
<tr>
<td>Married/living with partner</td>
<td>15</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td><strong>Place of birth:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>40</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Overseas</td>
<td>12</td>
<td>23</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note. N* = 52.

As can be seen in Table 2.2, the largest proportion of participants had at least a high school level of education and were employed. Approximately half of the participants were not in a relationship, and approximately two thirds were born in Australia.

Responses to the content validity questions used in the pilot study indicated that a large majority of respondents easily understood how to complete most of the CCQ. Specifically, participants found the questions that pertained to describing a recent stressful situation, rating perceived stressfulness of that event, and the core item pool were clear and easy to understand. However, qualitative comments revealed
some confusion among participants regarding the supplementary questions that pertained to substances consumed. Six participants commented that they were unsure how to state that they never consume certain substances. To eliminate such confusion with future respondents the middle anchor was altered. In its initial design, the midpoint of the 5-point Likert-type scale was labelled 3 (*the same as usual/never*). The revised version comprised a 6-point Likert-type scale, with the modified point 3 (*the same as usual*) and an additional point 6 (*never use, N/A*). See Appendix I for the revised version of this Likert-type scale.

There were also some noteworthy findings in regards to the inductive question included at the end of the item pool. Some consistency appeared in responses to the qualitative question: *Were there any other reasons that you had food, caffeine, cigarettes, alcohol or other drugs over the course of this stressful situation that were not mentioned above?* Most comments made were found to be redundant versions of existing items (e.g., as a distraction), or otherwise used colloquialisms (e.g., to get away from dark feelings). The redundant responses found here may be evidence of the attrition/response bias as it may be that the initial item pool was too long for participants. However, one new theme appeared in the comments. Some responses indicated that consumption during stressful event served as a means to “have fun”, “feel free” or “feel uninhibited” to help them cope with the stressful event. As a result these items were added to the initial pool for inclusion in the first major study, because they potentially tap into an aspect of the escape/soothe emotions scale not covered by existing items.

Other findings from the pilot study indicated that 19 of the participants felt that the questionnaire was too long. Inspection of actual completion time (recorded as a feature of the online data collection method) revealed that it took participants an
average of 30 minutes to complete the CCQ. Based on other responses, nine participants commented that items were repetitive. This is acceptable, as stated previously, as an amount of redundancy is typical of initial item pools that are later reduced through the scale development process. With regards to the instructions that directed participants to either complete or omit the core item pool, three participants made an error and subsequently completed the CCQ incorrectly. These participants completed the core item pool when they should have omitted it, because they indicated that consumption did not increase during their stressful event.

Table 2.3 displays the frequency distribution of the number of substances for which consumption increased during the stressful event. Responses showed the occurrence of consumptive coping among a large proportion of the participants. Of the participants, only 10% did not increase consumption of any substance during the stressful event. This may provide preliminary support for the pervasive nature of consumptive coping. Also evident was that most participants that increased consumption consumed between one to three substances.

Table 2.3

<table>
<thead>
<tr>
<th>Number of substances</th>
<th>Frequency</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>21</td>
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<tr>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note. N = 52.*
The type of substance/s consumed was also examined. The substance most frequently consumed was alcohol \((n = 25)\), followed by caffeine \((n = 24)\), food \((n = 19)\), and cigarettes \((n = 17)\). The “other drugs” category was endorsed the least \((n = 14)\). The distribution of responses to the item pool was not examined with the pilot study sample due to the small number of participants and the large number of items. The first major developmental study will explore the factor structure of the items.

### 2.6 Summary

This chapter outlined the process undertaken for construction of the initial version of the CCQ. An informed eclectic approach was taken towards development and content validation analyses. At the outset, the CCQ consisted of a core item pool of 90 items that examined five specific functions of consumptive coping; escape/soothe emotions, physical relief, distraction from thoughts, time-out and self-punishment. Supplementary questions of the CCQ obtained information about a stressful event that occurred in the past month, perceived stressfulness of this event, and ratings of whether consumption of certain classes of substances changed from normal during this period. Initial item screening procedures undertaken resulted in changes to the original format of the CCQ. Specifically, results of item allocation procedures identified nine items for removal. The pilot study led to the addition of three items, and also to a revision of the measurement format of the supplementary Likert-type scale that measures substances consumed. The resultant version of the CCQ contained 84 items, and achieved preliminary support for content validity, sufficient to proceed with further refinement among a larger development sample.
Chapter 3

Evaluation of a Preliminary Measure of Consuming to Cope
in a Development Sample (Study 1)
The scale development procedures described in the previous chapter led to the construction of the first version of the Consuming to Cope Questionnaire (CCQ). The 84 items that comprise the core item pool required statistical exploration among a large sample to examine the factor structure and internal consistency reliability of items. This will allow for refinements of the CCQ and may guide deletion of poor performing (unhelpful or redundant) items, to reveal an optimal version of the scale. Investigation of the relationship between the CCQ and other theoretically relevant constructs will also assist with establishing the validity of the measure. These procedures and the rationale for their application in the ongoing development and refinement of the CCQ are outlined below.

Common Factor Analysis (ComFA) and Principal Component Analysis (PCA) are two overarching classes of data analytic techniques used to explore the factor structure of a scale. Exploratory Factor Analysis (EFA), a type of ComFA, was used in the present study to identify and explore the latent constructs that cause the observed or measured variables (items) to covary. For the current study the EFA will reveal whether the devised CCQ items support the proposed structure of the five functions that underlie consumptive coping. Therein, through EFA a scale can be statistically refined and developed from its theoretical origin. This was preferred over PCA because PCA does not discriminate between unique and shared variance (Costello & Osborne, 2005). In ComFA, the common covariation among the items reveals the factor structure, whereas PCA is based on the total variance (DeVellis, 2011). Further, EFA is suited to understanding the underlying structure of a data set, whereas PCA is typically applied as a data reduction technique (Costello & Osborne, 2005). It has also been suggested that EFA may reveal more pure factors than PCA (Costello & Osborne, 2005; DeVellis, 2011). DeVellis (2011) states that contention
exists regarding the similar or distinct nature of these two factor analytic techniques. However Snook and Gorsuch (1989) found that when analysing more than 40 items, there exists little difference in using EFA or PCA. Tabachnick and Fidell (2007) also state that differences are minimal between these two methods if samples are large and numerous variables are included. Nevertheless, ComFA/EFA was used in the current study, due to the primary goal of identifying the latent constructs that underlie the items of the CCQ. Furthermore, despite limitations inherent to EFA (see Skinner et al., 2003, for a comprehensive review), this procedure is commonly applied in scale development (Field, 2009; Pett et al., 2003; Tabachnick & Fidell, 2007).

After examination of the structure of the CCQ’s items through EFA, the internal consistency of the scale was explored. Internal consistency examines how well the items of a scale or subscale fit together (Pett et al., 2003). This type of reliability determines whether the items of a scale are interrelated, and measure the latent variable (DeVellis, 2011). More specifically, internal consistency is related to the homogeneity of items or the strength of the correlation between items and the total scores (Hinkin, 1995). High Cronbach’s alpha coefficients and inter-item correlations indicates that the items measure a construct, whereas small values signify that the items do not reflect the same latent construct (Pett et al., 2003; Spector, 1992). Examination of internal consistency will further assist in determining the quality of this preliminary version of the CCQ.

A scale may be reliable, however this does not automatically suggest that the latent variable shared by the items is in fact the targeted latent variable (DeVellis, 2011). It is possible that items of a scale could be related due to variables other than the construct that they were developed to measure (DeVellis, 2011). Convergent validity refers to evidence of similarity between measures of constructs that are
deemed to be theoretically related, whereas divergent validity refers to the absence of any relationship between measures of theoretically unrelated constructs (DeVellis, 2011). Assessment of convergent and divergent validity therefore provides a systematic means for obtaining evidence that the scale under development measures the variable/s it is designed to measure (Foster & Cone, 1995). Furthermore, evidence of convergent and divergent validity demonstrates that the scale under construction is measuring a new concept, rather than duplicating existing concepts (DeVellis, 2011; Pett et al., 2003). DeVellis (2011) suggests that exploration of validity is especially important in early stages of scale development. Despite this, researchers do not always administer the scale under construction with validity scales in the initial developmental study (e.g., Murphy, Rotheram-Borus, & Marelich, 2003; Van Strein et al., 1986). Such omission of validity measures has been suggested as disadvantageous, because without comparable scales the developer is unable to thoroughly examine the boundaries of the target construct before the scale is further developed, validated, and refined (Clark & Watson, 1995).

Overarching categories or functions of coping strategies are arguably suitable constructs for the assessment of convergent and divergent validity of consumptive coping. As consumptive coping is currently conceptualised as an emotion-focused and avoidant coping strategy, the functions of consumptive coping measured by the CCQ should theoretically share a relationship with measures of avoidant coping. In contrast, the functions of consumptive coping measured by the CCQ should not share a relationship with measures of approach/problem-focused and seeking social support coping.

Constructs not specific to coping may also be linked to consumptive coping and be useful for further examination of convergent validity. There are numerous
variables that may be associated with consumptive coping and the specific functions of this coping strategy. Self-efficacy, experiential avoidance, distress tolerance, and self-esteem were selected based on evidence that these variables may be related to avoidance and emotion-focused coping strategies, as discussed below.

General self-efficacy refers to an individual’s belief in their own competence to cope with various stressful situations (Luszczynska, Scholz, & Schwarzer, 2005). Self-efficacy has been shown to yield relationships with coping, as it possesses a self-regulatory function in coping with stress (Luszczynska et al., 2005). It has been suggested that stressful encounters might be perceived as more threatening to individuals low in self-efficacy (Jex, Bliese, Buzzell, & Primeau, 2001). Individuals low in self-efficacy may be more likely to employ avoidant coping strategies, possibly because they do not believe they have the capacity to cope effectively with a stressor (Jex et al., 2001). In contrast, individuals high in self-efficacy may be more likely to apply effective approach oriented strategies, possibly because they perceive stressors as manageable (Jex et al., 2001). Consistent with this idea, findings suggest that individuals low in self-efficacy are more likely to utilise emotion-focused and avoidant coping strategies during stressful events (Levin, Ilgen, & Moos, 2007; Pooley, Cohen, O’Connor, & Taylor, 2012).

Experiential avoidance is defined as the tendency to engage in behaviours that alter the incidence, duration or form of unwanted internal events such as thoughts (including memories), feelings, or physiological events (Hayes et al., 2004). Experiential avoidance has been linked to a greater risk of developing certain psychopathologies such as depression and anxiety, and poor mental health in general through associations with low emotional, psychological and social wellbeing (Fledderus, Bohlmeijer, & Pieterse, 2010). In a study that compared measures of
coping and experiential avoidance via factor analysis, experiential avoidance was found to load on the same factor as avoidant coping (Karekla & Panayiotou, 2010). It was concluded that experiential avoidance was associated with a greater use of coping strategies that serve an avoidant function (Karekla & Panayiotou, 2011). This association has also been revealed in other research (Hayes et al., 2004).

Distress tolerance has been defined as “the capacity to experience and withstand negative psychological states” (Simons & Gaher, 2005, p. 83). It is thought to incorporate an individual’s evaluations and expectations surrounding unpleasant internal states (Simons & Gaher, 2005). This concept includes the extent to which an individual a) tolerates the internal experience of distress, b) appraises the intensity of distress, c) is consumed by the distress which affects functioning, and d) engages in efforts directed at the regulation of the emotional distress (Simons & Gaher, 2005).

Research has found that low levels of distress tolerance, which is considered trait like, may pose a liability for developing problematic use of cigarettes, alcohol, illegal drugs, and also overeating and food addiction (Brown, Lejuez, Kahler, & Strong, 2002; Kozak & Fought, 2011). In regards to coping strategies, it has been suggested that low distress tolerance may be related to use of avoidant coping strategies (Vujanovic, Bernstein, & Litz, 2011).

Self-esteem is defined as an individual’s general evaluation of him or herself, and the extent of value placed on the self (Killie & Wood, 2012). High self-esteem is generally related to approach-oriented coping, and low self-esteem is typically related to avoidant coping or avoidant coping is a mediator of the relationship between stress and self-esteem in adolescent studies (Lodge & Feldman, 2007; Martyn-Nemeth, Penkofer, Gulanick, Velsor-Frederich, & Bryant, 2009; Mullis & Chapman, 2000).
The link between low self-esteem and greater use of avoidant coping has also occurred in adult studies (Barker, 2007; Eisenbarth, 2012).

There is support for the notion that the constructs of self-efficacy, experiential avoidance, distress tolerance, and self-esteem are linked to avoidance coping. Consuming substances to cope is considered an emotion-focused/avoidant coping strategy. Thus, consumptive coping should also be related to these variables.

3.1 Research Aims

The primary aim of the present study was to evaluate the psychometric properties of the 84-item version of the CCQ and refine it accordingly. It was anticipated that an EFA of the items of the CCQ would reveal five factors that represent the functions of consumptive coping; escape/soothe emotions, physical relief, distraction from thoughts, time-out, and self-punishment. These functions were expected to load onto a higher-order factor or general emotion-focused/avoidance function of consumptive coping.

A second aim was to examine the psychometric properties of the CCQ associated with reliability and validity. The CCQ was investigated to examine whether it demonstrated adequate internal consistency. Convergent and divergent validity of the CCQ was also examined. Collectively, these analyses will reveal whether the functions of consumptive coping can be adequately measured via the constructed CCQ items. It was anticipated that the CCQ would demonstrate satisfactory internal consistency. It was also hypothesised that higher scores on the CCQ factors would correlate positively (to a moderate degree) with higher scores on measures of avoidant coping, experiential avoidance, and negatively (to a moderate
degree) with lower scores on measures of self-efficacy, distress tolerance, and self-esteem. In addition, it was expected that the CCQ would not correlate (or only weakly correlate) with measures of problem-focused and seeking social support coping.

A final research focus compared individuals who consume to cope and individuals who do not utilise this coping strategy. Analyses were undertaken to examine whether these groups of individuals scored differently on the aforementioned validity measures. Such analyses will contribute to an enhanced understanding of consumptive coping, and perhaps ascertain whether these psychological characteristics are associated with this particular coping strategy.

**Method**

**3.2 Participants**

Participants were recruited from the Australian general public and from the Australian Catholic University, Melbourne campus. Recruitment occurred via advertisements about a research study on coping on an online social network (http://www.facebook.com), or alternatively through an internal network on the university website. Participants were therefore members of facebook from the general public, or university students. Participation was voluntary, and consent was implied by full completion of the online questionnaires by individuals over the age of 18. Students from the university were eligible for course credit for participation.

There were 2,052 individuals who began the process of completing the online questionnaires. Of these individuals, 1,386 did not complete the battery of questionnaires. These cases were excluded from further analysis, as consent was not
obtained. Subsequently, the sample for this study comprised 666 participants. Of
these respondents 30% were male and 70% were female. The males ranged in age
from 18 to 68 years old, with a mean age of 29 years ($SD = 13.43$). The females
ranged in age from 18 to 68 years, with a mean age of 28 years ($SD = 11.89$).

Due to the purpose of this study and the statistical methods employed, it was
necessary to categorise participants into two groups. One group of participants
endorsed consuming to cope ($n = 503$), and the other group did not ($n = 163$). Table
3.1 contains the demographic characteristics of these groups.

Table 3.1

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>CCQ</th>
<th>Non-CCQ</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>503</td>
<td>163</td>
<td>.43</td>
</tr>
<tr>
<td>Age: Mean</td>
<td>28.03</td>
<td>28.91</td>
<td>.43</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>12.31</td>
<td>12.63</td>
<td></td>
</tr>
<tr>
<td>Sex: Male</td>
<td>28.8%</td>
<td>33.1%</td>
<td>.35</td>
</tr>
<tr>
<td>Female</td>
<td>71.2%</td>
<td>66.9%</td>
<td></td>
</tr>
<tr>
<td>Education level: High school</td>
<td>30.8%</td>
<td>30.1%</td>
<td>.42</td>
</tr>
<tr>
<td>TAFE (Technical and Further Ed)</td>
<td>16.7%</td>
<td>16.6%</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>52.5%</td>
<td>53.4%</td>
<td></td>
</tr>
<tr>
<td>Work status: Student</td>
<td>20.1%</td>
<td>25.8%</td>
<td>.58</td>
</tr>
<tr>
<td>Employed</td>
<td>29.8%</td>
<td>28.8%</td>
<td></td>
</tr>
<tr>
<td>Employed student</td>
<td>28.0%</td>
<td>23.9%</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>14.1%</td>
<td>12.9%</td>
<td></td>
</tr>
<tr>
<td>Stay at home parent or carer</td>
<td>8.0%</td>
<td>8.6%</td>
<td></td>
</tr>
<tr>
<td>Relationship status: Single</td>
<td>51.7%</td>
<td>49.7%</td>
<td>.78</td>
</tr>
<tr>
<td>Not living with partner</td>
<td>24.9%</td>
<td>22.7%</td>
<td></td>
</tr>
<tr>
<td>Married/living with partner</td>
<td>23.4%</td>
<td>27.6%</td>
<td></td>
</tr>
<tr>
<td>Place of birth: Australia</td>
<td>85.5%</td>
<td>77.9%</td>
<td>.03*</td>
</tr>
<tr>
<td>Overseas</td>
<td>14.5%</td>
<td>22.1%</td>
<td></td>
</tr>
</tbody>
</table>

*Note. $p$ value is based on Chi-Square test for the categorical variables, and is based on
independent sample $t$-test for the continuous variables.

* = $p < .05$. 
Despite the marked difference in the size of the CCQ and Non-CCQ groups, when compared on demographic characteristics, the only significant difference between the two groups was on place of birth, however on closer inspection the effect size was very small ($\phi = .09$). Overall, these groups appear quite similar in demographic terms.

### 3.3 Materials

#### 3.3.1 Demographic questionnaire

Basic demographic information (i.e., age, sex, etc) was collected from participants. This questionnaire was identical to the demographics questionnaire utilised in the pilot study (Appendix H).

#### 3.3.2 The Consuming to Cope Questionnaire (CCQ)

The CCQ was designed to measure consumptive coping and the functions that underlie consumption as a coping strategy. The CCQ contains two sections, the first section contains the supplementary questions and the second section contains the core item pool. In the first section participants are asked to qualitatively describe a recent stressful situation, and then rate how stressful this situation was on a 5-point Likert-type scale ranging from 1 (a little bit stressful) to 5 (extremely stressful). This section also requires participants to rate whether their consumption of certain substances changed from usual during this stressful situation on a 6-point Likert-type scale from 1 (a lot less than usual), 2 (a bit less than usual), 3 (the same as usual), 4 (a bit more than usual), 5 (a lot more than usual), to 6 (not applicable/never use). The second section of the CCQ comprises 84 self-report items that are measured on a 5-point Likert-type scale that ranges from 1 (not at all true of me) to 5 (extremely true of me). These items were designed to represent five functions that underlie consuming to cope: escape/soothe
emotions (e.g., “to soothe difficult emotions”), physical relief (e.g., “to reduce tension in my body”), distraction from thoughts (e.g., “to avoid thoughts that bother me”), time-out (e.g., “to take some time out to re-group”), and self-punishment (e.g., “to punish myself for my role in the situation”). The total CCQ score is calculated by summation of all of the items, with the possible total score ranging from 84 to 420. Scores for the subscales are derived from summation of the items that represent each function (to be identified via EFA). Higher total scores indicate greater endorsement of the CCQ overall, and higher function scores indicate the extent to which the function is true of the individual. Appendix J contains the 84-item version of the CCQ that was utilised in Study 1.

3.3.3 The Coping Strategy Indicator (CSI, Amirkhan, 1990). The CSI was used to measure the other coping strategies that were applied during the stressful situation that was nominated in the CCQ. The CSI is a 33-item multidimensional self-report scale and participants respond to each item on a 3-point Likert-type scale ranging from 3 (a lot) to 1 (not at all). The items represent three factors that pertain to different types of coping: Problem Solving (e.g., “rearranged things so your problem could be solved”), Seeking Social Support (e.g., “described your feelings to a friend”), and Avoidance (e.g., “daydreamed about better things”). Scores range from 11 to 33 for each subscale, with high scores representing greater use of the strategies that serve the particular coping function. Each of the subscales has been found to possess adequate internal consistency in previous research, as Cronbach’s alpha coefficients have ranged from .86 to .98 for Problem Solving, .89 to .98 for Seeking Social Support, and from .77 to .96 for Avoidance among numerous studies (Amirkhan, 1990; Bijttebier & Vertommen, 1997; Clark, Bormann, Cropanzano, & James, 1995; Desmond, Shevlin, & MacLachlan, 2006; Utsey, Ponterotto, Reynolds,
The Cronbach’s alpha coefficient of the CSI in the current study was .91 for Problem Solving, .94 for Seeking Social Support, and .80 for Avoidance, suggesting very good internal consistency reliability.

The CSI was factor analytically developed among numerous large samples (Amirkhan, 1990). Its factor structure has been supported by numerous studies, with some evidence of two sub components (withdrawal and distraction) within the avoidance factor (Agar & MacLachlan, 1998; Bijttebier & Vertommen, 1997; Clark et al., 1995; Desmond et al., 2006; Soto, Borjas, Ramos, & Chavez, 2007). However, the three-factor model will be used for the current study due to the preference for examination of the degree of relationship between the CSQ and one general avoidance coping factor. The CSI was chosen for use in the present research over other coping measures due to its satisfactory psychometric properties and development from deductive, factor analytic methods. This scale was also desirable due to the absence of consumptive coping items within the avoidance subscale. This permits examination of the relationship between the CSI avoidance scale and the CCQ without the influence of similar consumptive coping items. It was selected for use as a measure of convergent (Avoidant coping) and divergent (Problem Solving and Seeking Social Support coping) validity in the current analyses.

3.3.4 General Self-Efficacy Scale (GSES, Schwarzer & Jerusalem, 1995).

The GSES was utilised to assess one’s belief in their ability to cope with stressful situations. Ten items are measured on a 4-point Likert-type scale that ranges from 1 (not at all true) to 4 (exactly true). An example item is “thanks to my resourcefulness, I can handle unforeseen situations.” Scores range from 10 to 40, with high scores indicating high self-efficacy. Cronbach’s alphas for the scale have been found to range from .86 to .94 among different samples (Luszczynska et al., 2005). The present
study found a Cronbach’s alpha of .92, demonstrating excellent internal consistency reliability.

The factorial validity of the GSES (i.e., formation of one global dimension) has been supported in previous research (Leganger, Kraft, & Roysamb, 2000; Love, Moore, & Hensing, 2012; Wu, 2009). The GSES was chosen for use in the present research because it is parsimonious and a widely utilised measure of self-efficacy. It was deemed a suitable measure for assessment of convergent validity.

### 3.3.5 Acceptance and Action Questionnaire (AAQ-II, Bond et al., 2011)

The AAQ-II is a 7-item scale. This scale assesses the tendency to avoid contact with internal psychological experiences, such as physical sensations, emotions, memories, thoughts and images (Hayes et al., 2004). Items are rated on a 7-point Likert-type scale ranging from 1 (never true) to 7 (always true), with possible scores ranging from 7 to 49. An example of an item from the scale is “emotions cause problems in my life.” High scores on the AAQ-II indicate the tendency towards experiential avoidance and immobility and greater levels of psychological inflexibility, while low scores are indicative of acceptance and action. Cronbach’s alpha coefficients of .84 and .87 have been reported in previous studies (Bond et al., 2011; Kashdan, Barrios, Forsyth, & Steger, 2006). The Cronbach’s alpha value for the present study was .92, which suggests excellent internal consistency reliability.

The factorial validity of the AAQ-II has been supported across different cultures (Pennato, Berrocal, Bernini, & Rivas, 2013), and among clinical samples (Fledderus, Oude Voshaar, ten Klooster, & Bohlmeijer, 2012; Szabo, Vargha, Balazsi, Bartalus, & Bogdan, 2011). Furthermore the revised 7-item AAQ-II displays superior psychometric properties than earlier versions (Pennato et al., 2013). This measure was used to examine convergent validity of the CCQ.
3.3.6 Distress Tolerance Scale (DTS, Simons & Gaher, 2005). The DTS was utilised to measure the participant’s level of distress tolerance. Distress tolerance is one’s capacity to experience and withstand negative psychological states. This construct is concerned with an individual’s evaluations and expectations of their experience of negative emotional states with respect to a) tolerability and aversiveness, b) appraisal and acceptability, c) tendency to absorb attention and disrupt functioning and d) regulation of emotions to avoid or attenuate the experience (Simons & Gaher, 2005). Participants respond by indicating the degree to which 15 statements that represent the above four facets of distress tolerance describe themselves: Tolerance (e.g., “feeling distressed or upset is unbearable to me”), Appraisal (e.g., “my feelings of distress or being upset are not acceptable”), Absorption (e.g., “when I feel distressed or upset, all I can think about is how bad I feel”), and Regulation (e.g., “I’ll do anything to stop feeling distressed or upset”). Participants indicate their level of agreement with the items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). One item is reverse scored, and high scores represent high distress tolerance. There are three items for each of the tolerance, absorption and regulation subscales, and six items that measure appraisal. Subscale scores are the mean of the items, and overall distress tolerance is derived from the mean of the four subscales. Simons and Gaher (2005) found alpha coefficients that range from .82 to .85 for the general higher-order factor (total score), and .72 to .73 for Tolerance, .82 to .84 for Appraisal, .78 to .77 for Absorption, and .70 to .74 for Regulation subscales. Although Cronbach’s alpha coefficients are generally desired to be above .70, for scales that comprise fewer than 10 items, lower alpha values and internal consistency may be considered acceptable (Pallant, 2010). The Cronbach’s alphas were .94 overall, .84 for Tolerance, .88 for Appraisal, .87 for
Absorption, and .79 for Regulation in the current study. These values represent very
good to excellent internal consistency.

In addition to a large student sample (Simons & Gaher, 2005), the factor
structure and psychometric properties of the DTS have been supported among a range
of other samples including adolescents (You & Leung, 2012), adult cigarette smokers
(Leyro, Bernstein, Vujanovic, McLeish, & Zvolensky, 2011), and eating disorder
patients (Raykos, Byrne, & Watson, 2009). The DTS was used as a measure of
convergent validity for the current study.

3.3.7 Self Esteem Scale (RSE, Rosenberg, 1965). Self-esteem is an
individual’s view of oneself being either positive or negative (Rosenberg, 1965). It
may also refer to an individual’s evaluation of their worth or value (Rosenberg, 1965).
The RSE consists of ten items, and participants respond to each item on a 4-point
Likert-type scale ranging from 3 (strongly agree) to 0 (strongly disagree). An
example item is “I feel that I’m a person of worth.” Five items were reverse scored.
Scores range from 0 to 30 with higher scores indicating higher self-esteem.
Reliabilities for the RSE have ranged from .72 to .90 (Gray-Little, Williams, &
Hancock, 1997; Robins, Hendin, & Trzesniewski, 2001). In the current study, internal
consistency measured by Cronbach’s alpha was excellent, with an alpha level of .91.

Previous studies have shown support for the factor structure of the RSE
(Huang & Dong, 2012; Schmitt & Allik, 2005). The RSE was chosen as it is the most
utilised measure of overall self-esteem. This measure was used to assess convergent
validity.

3.3.8 Social Desirability Scale (SDS, Strahan & Gerbasi, 1972). Social
desirability reflects whether an individual answers questions in a way that is truthful,
or in a way that is socially desirable (Pett et al., 2003). Social desirability has the
potential to distort the data that are collected and also impair the validity of the scale being developed (Pett et al., 2003). Derived from the original 33-item version, the short version of the SDS contains 10 items scored on a dichotomous true/false scale. An example item is “I always try to practice what I preach.” Five items are coded and scored as true = 1, false = 0, and five items are coded and scored as true = 0 false = 1. Scores range from zero to ten, with high scores indicating socially desirable responding. Previous research has found a Cronbach’s alpha coefficient of .70 (Fraboni & Cooper, 1989), and for the current study this coefficient was .77, indicating good internal consistency reliability.

The factor structure of the SDS short form employed in the current study has been supported in previous research (Fischer & Fick, 1993). This scale was chosen to detect socially desirable responding as it can be conveniently inserted into a questionnaire battery.

### 3.4 Procedure

Ethics approval for the present research was granted by the Australian Catholic University Human Research Ethics Committee (ethics registration number V2010 116, see Appendix F). Participants completed the questionnaire battery online (at http://www.psychdata.com). To ensure informed consent the questionnaires were preceded by an information letter (see Appendix K), which stipulated that participants were free to withdraw at any time, however if they wished to proceed the questions may take approx 30 to 45 minutes to complete. Participants were asked to complete a questionnaire package that included the aforementioned measures presented in the following order: Demographic questionnaire, CCQ, CSI, GSES, AAQ, DTS, RSE and
SDS. Participants who did not report an increase in consumption of substances during
the stressful event were instructed to omit the core item pool of the CCQ. The
completed questionnaires were saved on a secure and password protected website
(http://www.psychdata.com). To ensure confidentiality and anonymity of respondents,
no names or personal details other than information from the demographic
questionnaire was collected.

Results

These data were analysed using the Statistical Package for the Social Sciences
(SPSS) version 19. The results of the statistical analyses conducted are outlined in
five general sections. The first section comprises the process of data inspection. In the
second section, results of the EFA are reported. The third section reports reliability
analyses. The fourth section summarises validity analyses of the CCQ. The final
section contains the comparisons between the CCQ and Non-CCQ groups on the
validity measures. An alpha level of .05 was used for all statistical tests, unless
otherwise specified.

3.5 Data Inspection

Given the parameters of online data collection all scores were in range. There
were no missing data as the online data collection procedure was conditional whereby
individuals could not progress unless all items were answered. Items from
questionnaires in the test battery that required reverse scoring or re-coding were
modified accordingly (as described in materials section) prior to any analyses.
Item scores on the CCQ and other validity measures included in the questionnaire battery were transformed into standardised z-scores to check for univariate outliers (Field, 2009; Tabachnick & Fidell, 2007). This was performed separately for the CCQ and Non-CCQ groups, according to suggested guidelines for analysis of grouped data (Tabachnick & Fidell, 2007). The criteria by which to assess the standardised scores for the current study was set to a z-score of 4. In larger samples (> 80-100 participants) the threshold value for z-scores up to 4 has been acceptable and not indicative of outliers (Hair, Anderson, Tatham, & Black, 1998; Stevens, 2009). However, a few outliers over 3.29 for standardised scores are expected in large samples (Tabachnick & Fidell, 2007). For the CCQ group all z-scores fell below 4, with five between 3.29 and 4. Similarly, no univariate outliers were identified in the Non-CCQ group.

Mahalanobis distance values were calculated to inspect the two groups of data for multivariate outliers. For the CCQ group, four cases exceeded the critical value of 27.88 ($df = 9$), and were deleted. For the Non-CCQ group one case was identified as a multivariate outlier and was deleted for exceeding the critical value of 26.13 ($df = 8$). These outliers were detected using a significance criterion of $p < .001$. These cases performed differently to the majority of cases, with constellations of scores that were well below and/or above the average. Due to the large sample size, removal of five cases was not deemed to affect the generalisability of the results. After removal of these cases there was a total of 499 cases in the CCQ group (those who endorsed consuming to cope), and 162 in the Non-CCQ group (those who did not endorse consuming to cope).

When exploring the relationship among a large set of variables (as in EFA), assumptions of normality are not compulsory (Hair et al., 1998; Tabachnick & Fidell,
However, distributions may potentially affect the factor solution (Field, 2009). Extreme skewness and kurtosis impact on the factor structure and variance of items, so were inspected accordingly. No items approached or exceeded the kurtosis value of 7. However, twelve items were found to be positively skewed, six with extreme skewness values that were greater than 2 (West, Finch, & Curran, 1995), and six with skewness values between 1 and 2. Transformation (log10) of these variables was considered. However, when transformed the items were still above 1 in skewness value. Further, of these items, 71% to 88% of cases fell on point 1 or 2. The anchors of these scale points indicated that the function the item proposed was not true of the individual. Any correlations derived from these items (if retained) would be too highly influenced by the skew, and inclusion of these items could detrimentally affect the factor structure. These 12 items were therefore excluded from further analyses.

The deleted items were all the self-punishment subscale items: “to cause harm to myself as punishment”, “to punish myself because I was to blame for the situation”, “to feel pain because I messed up”, “to make myself feel worse because I deserved it”, “to hurt myself because the situation was my fault”, “to teach myself a lesson for being involved in the situation”, “to punish myself for my role in the situation”, “to punish myself for my wrongdoing in the situation”, “to make myself feel bad because I was at fault in the situation”, “to punish myself for causing the situation”, and the physical relief subscale items: “to soothe my upset stomach” and “to help slow down my breathing.”

To further inspect these data, responses to the questionnaires included in the battery were examined. Table 3.2 presents the means and standard deviations of the validity measures for the sample as a whole and for CCQ and Non-CCQ groups.
Table 3.2

**Means and Standard Deviations for the Scales Included in the Battery**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>Range</th>
<th>Total sample</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>CSI</td>
<td>Problem Solving</td>
<td>11-33</td>
<td>22.94</td>
<td>5.85</td>
<td>22.68</td>
<td>5.87</td>
</tr>
<tr>
<td></td>
<td>Avoidance</td>
<td>11-33</td>
<td>21.48</td>
<td>5.07</td>
<td>21.86</td>
<td>5.02</td>
</tr>
<tr>
<td></td>
<td>Social Support</td>
<td>11-33</td>
<td>20.58</td>
<td>6.46</td>
<td>20.81</td>
<td>6.48</td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>10-40</td>
<td>28.32</td>
<td>6.07</td>
<td>27.91</td>
<td>6.14</td>
</tr>
<tr>
<td>AAQ</td>
<td></td>
<td>7-49</td>
<td>27.03</td>
<td>10.72</td>
<td>27.84</td>
<td>10.67</td>
</tr>
<tr>
<td>DTS</td>
<td>Total</td>
<td>1-5</td>
<td>3.02</td>
<td>.96</td>
<td>2.95</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>Tolerance</td>
<td>1-5</td>
<td>3.02</td>
<td>1.13</td>
<td>2.96</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td>Absorption</td>
<td>1-5</td>
<td>2.99</td>
<td>1.21</td>
<td>2.88</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>Appraisal</td>
<td>1-5</td>
<td>3.17</td>
<td>1.05</td>
<td>3.07</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td>1-5</td>
<td>2.93</td>
<td>1.05</td>
<td>2.91</td>
<td>1.03</td>
</tr>
<tr>
<td>RSE</td>
<td></td>
<td>0-30</td>
<td>16.58</td>
<td>6.43</td>
<td>16.12</td>
<td>6.28</td>
</tr>
<tr>
<td>SDS</td>
<td></td>
<td>0-10</td>
<td>4.73</td>
<td>1.97</td>
<td>4.59</td>
<td>1.99</td>
</tr>
</tbody>
</table>

*Note.* CSI = Coping Strategy Indicator; GSES = General Self Efficacy Scale; AAQ = Acceptance and Action Questionnaire II; DTS = Distress Tolerance Scale; RSE = Self Esteem Scale; SDS = Social Desirability Scale. Total N = 661, CCQ n = 499, Non-CCQ n = 162.

As evident in Table 3.2, the average score for all of the scales was near the middle of the possible range. It appears that participants tended to use all of the coping strategies to some degree, and that on average, participants appeared to have good belief in their ability to cope. Participants on average reported experiencing moderate levels of experiential avoidance, distress tolerance, and self-esteem. Scores on the SDS suggest that respondents were not answering in a highly socially desirable manner on average.
Responses to the section of the CCQ that assessed the number of substances that were consumed more than usual during a stressful event are presented in Table 3.3. Of the 661 participants, 112 reported that they did not use any substance to help themselves cope through the stressful situation. This suggests that 50 of the participants from the Non-CCQ group reported that they increased consumption of a substance during the stressful period, however did not correctly follow the directions and did not respond to the core item pool of the CCQ. Implications of this issue are discussed later. Nevertheless, 549 participants indicated that they consumed more than usual during the stressful event. This signifies that 83% of individuals who participated in the study consumed between one and five substances to help themselves cope.

Table 3.3

<table>
<thead>
<tr>
<th>Number of substance/s</th>
<th>Frequency</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>112</td>
<td>16.9</td>
</tr>
<tr>
<td>1</td>
<td>180</td>
<td>27.2</td>
</tr>
<tr>
<td>2</td>
<td>191</td>
<td>28.9</td>
</tr>
<tr>
<td>3</td>
<td>131</td>
<td>19.8</td>
</tr>
<tr>
<td>4</td>
<td>37</td>
<td>5.6</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Note. \( N = 661. \)

The type of substance/s consumed by participants was also examined. The substance most frequently consumed by participants was alcohol (42.5%), followed by food (41.1%), caffeine (40.1%), and cigarettes (31.9%). The “other drugs” category was endorsed the least (18.8%).
3.6 Exploratory Factor Analysis

3.6.1 The factor analytic model and factorability of R. An R-type factor analysis was employed, because the objective of the study was to analyse the items of the CCQ and identify the underlying (latent) dimensions. An R type factor analysis involves a correlation matrix of the variables, rather than the respondents, as in Q type factor analysis (Hair, Black, Babin, & Anderson, 2010). Upon inspection of the correlation matrix of the items, four items (“to have some fun”, “to help relieve headaches”, “to have some time to think”, and “to take some time out to reflect”) correlated at < .3 with more than 50% of the items that comprise the pool. No correlations in the matrix were observed to be > .9, however two items (“to avoid emotions I didn’t want to have”, and “to make distressing emotions go away”) correlated with other items at a level > .8. Ideally, inspection of the correlation matrix of items should reveal correlations between .3 and .8, as correlations below .3 indicate no relationship between the items, and those that are over .8 may suggest redundancy or multicollinearity (Field, 2009; Tabachnick & Fidell, 2007). These six items were therefore excluded from further analyses.

Bartlett’s test of sphericity, Kaiser-Meyer-Olkin measure of sampling adequacy (KMO), and the anti image correlation matrix were also examined to assess factorability. Bartlett’s test was significant ($p < .001$), which supports factor suitability. This suggests that there are correlations among the variables, and the R-matrix is not an identity matrix as relationships were evident between some of the items (Field, 2009). The KMO was .975. KMO values range from 0 to 1, and if closer to 1, indicates that patterns of correlations among the items are compact, and EFA should reveal factors (Field, 2009). Values over .9 are classified as “marvelous”
according to Kaiser (1974), therefore the data set appears to be adequate for factor analysis. Visual inspection of the anti image correlation matrix helps to further refine the process of identifying items that do not correlate. All diagonal values were > .9, which is satisfactory according to Field (2009) whereby the diagonal value (KMO values for individual items) should be > .5. Most of the off-diagonal values were < .3. It is preferable that the off-diagonal values (partial correlations between the items) are small, < .3, to indicate significant common covariance in the factor analysis (Field, 2009; Pett et al., 2003; Tabachnick & Fidell, 2007). As only seven correlations were above .3 (and ranged from .31 to .42), it remained appropriate to proceed with EFA.

### 3.6.2 Factor extraction.

Inspection of eigenvalues in conjunction with the scree test (Cattell, 1966) was first examined to determine the number of factors to extract. Table 3.4 presents statistics associated with eigenvalues greater than 1.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvales</th>
<th>Total</th>
<th>% of Variance</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30.31</td>
<td>45.92</td>
<td>45.92</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5.95</td>
<td>8.17</td>
<td>54.09</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.81</td>
<td>5.78</td>
<td>59.86</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2.05</td>
<td>3.11</td>
<td>62.98</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.84</td>
<td>2.79</td>
<td>65.76</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.17</td>
<td>1.78</td>
<td>67.54</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1.06</td>
<td>1.61</td>
<td>69.15</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1.01</td>
<td>1.53</td>
<td>70.68</td>
<td></td>
</tr>
</tbody>
</table>

*Note. n = 499.*
As displayed in Table 3.4, the initial analysis yielded an eight-factor solution. These eight factors accounted for 70.68% of the total variance. As expected the first factor explained most of the covariation (45.92%), and each factor thereafter accounted for less than the preceding factor. However, inspection of eigenvalues alone is not adequate for obtaining the number of factors to extract, as this process often suggests extraction of more factors than can be interpreted by theory (DeVellis, 2011). Accordingly, the scree test (Cattell, 1966) was examined. Figure 3.1 presents the scree plot for these data.

*Figure 3.1. Scree test suggesting extraction of three or five factors.*
Visual inspection of the elbow of the scree plot indicated that either three or five factors were optimum for extraction, accounting for 59.86% and 65.76% of the total explained variance respectively (prior to further item elimination). As the scree plot could be interpreted to suggest two different factor solutions, further examination of the most suitable number of factors to extract was required.

Referring again to Table 3.4, inspection of the amount of variance explained by three or five factors was considered. This was in order to further investigate the number of factors to extract (Hair et al., 1998; Pett et al., 2003). Factors that did not meet the minimum requirement of 5% explanation of variance were not retained. According to Table 3.4, a three-factor extraction is supported when using this criteria.

Parallel analysis was also undertaken to explore the number of factors to extract (Field, 2009; Horn, 1965; Pallant, 2010). Parallel analysis is an underutilised factor retention method due to its exclusion from major statistical packages including SPSS and SAS (Hayton, Allen, & Scarpello, 2004). The parallel analysis technique involves comparison of the actual eigenvalues obtained with a second set of eigenvalues that are derived from a randomly generated data set with the same sample size (66 variables x 499 participants). A stand alone statistical program (Watkins, 2000) was used to perform the analysis for the current study. Upon inspection of the eigenvalues that were greater than their equivalent from the randomised set (Pallant, 2010), the results supported the retention of five factors (see Appendix L for a copy of the output produced by the program).

As evident from the aforementioned process, statistical methods generally supported the extraction of five- or three-factor solutions, therefore the number of factors to retain was unclear. Accordingly, it has been suggested that rather than sole reliance on statistical results, this decision process should also consider the number of
factors that make best theoretical sense (Pett et al., 2003). In these circumstances it has been suggested to undertake EFAs that specify different numbers of factors to retain (Tabachnick & Fidell, 2007). As a result, several factor solutions can be examined to aid decision making in arriving at the most representative number of factors that makes the most intuitive and theoretical sense (Pett et al., 2003; Tabachnick & Fidell, 2007).

Two EFAs were therefore undertaken which specified three or five factors (with maximum likelihood extraction and direct oblimin rotation). In each case, the pattern matrix was inspected and EFAs were run and re-run after deletion of items based on the following criteria. Items that cross-loaded onto more than one factor at > .3 or loaded on a factor at < .3 or were deleted, due to being inconsequential in interpreting the factor matrix (Tabachnick & Fidell, 2007). Items that had low communalities (< .4 common variance) were also deleted, as these items were not highly correlated with factors in the solution (Worthington & Whitaker, 2006). This process was repeated until items loaded on only one factor. The two EFA processes undertaken produced a three-factor solution and a four-factor solution, the latter of which resulted from the EFA that initially specified a five-factor solution. The four-factor solution was deemed to best represent these data theoretically and was chosen for the following reasons. The three- and four-factor models explained very similar variance (64.76% and 67.52% respectively), with the four-factor solution explaining slightly more. Inspection of the pattern matrices revealed that the first three factors of these two models were similar, however the fourth factor was deemed to add something important to the solution, and correlated moderately with the first and second factors. Accordingly it was decided that the three-factor solution may omit an important theoretical aspect of the construct that the scale aims to measure. Further,
the items that comprise the fourth factor in the four-factor model were lost in the three-factor model. Gorsuch (1983) suggests if one is unsure of how many factors to extract, select more rather than less. The four-factor model (obtained by initially specifying a five-factor model) was deemed preferable, and the specific details of the EFA process undertaken to obtain this solution are outlined below.

3.6.3 Method of factor analysis and factor rotation applied. Maximum Likelihood (ML) factor extraction (Lawley & Maxwell, 1963) was chosen from the options of extraction methods in SPSS. The goal of extraction is to reveal the number of latent factors that are needed to account for the common variance among the items of a scale (Reise, Waller, & Comrey, 2000). ML was chosen as it has been described as the best choice of extraction method for relatively normally distributed data, most likely to produce estimates that represent true factors (DiStefano, Zhu, & Mindrila, 2009; Fabrigar, Wegener, MacCallum, & Strahan, 1999). A simple structure (Thurstone, 1947) of factors was desired, where most items have a large loading on only one of the factors, and smaller loadings on the remaining factors.

There are two overarching categories of factor rotation that can be applied to EFA, orthogonal and oblique. In the former, factors are independent and not allowed to correlate, whereas in the latter factors are allowed to correlate (DeVellis, 2011). Oblique rotations permit for the complex nature of factors to unfold, as factors may or may not correlate via this method, depending on whichever solution best fits these data (Reise et al., 2000). For the current study, oblique rather than orthogonal rotation was chosen, because the underlying latent factors were expected to be related somewhat. Specifically, direct oblimin rotation with Kaiser normalization (Jennrich & Sampson, 1966) with a delta of zero was used in the current analyses. Factors are most oblique when delta is set at zero (therefore is the default in SPSS).
3.6.4 Factor interpretation. Based on decisions made from the initial factor extraction analyses described in Section 3.6.2, it was deemed that a four-factor solution best suited these data. To get to the four-factor solution, an EFA that initially specified a five-factor solution (with ML extraction and direct oblimin rotation) was undertaken. Subsequently, four items were deleted due to low communalities, and 11 were deleted due to cross loading. The factor analysis was then re-run without these items. Inspection of the scree plot and pattern matrix of the next analysis indicated that a four factor solution was most appropriate for the remaining items. Hence, the five-factor solution was abandoned and the analysis was re-run specifying a four-factor solution. Subsequent inspection of communalities led to the further deletion of one item, and two other items that were also found to cross load. These three items were deleted and the analysis re-run. The resultant scree plot indicated that a four-factor solution was still appropriate, and this iteration indicated that there were no more items with communalities < .4 and no cross loading items.

The EFA procedure outlined above concluded with four factors and 49 items, whereby Factors 1, 2, 3 and 4 comprised 23, 10, 11 and 5 items respectively. In order to reduce the length of the CCQ, the top five loading items were retained to assess each factor. This was considered appropriate as items that have higher loadings are considered to have greater influence on and be more representative of a factor (Tabachnick & Fidell, 2007). Further it has been suggested that when a factor contains more items than desired, items that have the lowest factor loadings can be deleted (Worthington & Whitaker, 2006). At least four items per factor has been recommended as adequate (Comrey & Lee, 1992; Fabrigar et al., 1999). The factor analysis was re-run a final time after the deletion of 29 lowest loading items. Appendix M contains a list of all of the deleted items and stages at which removal
occurred. The final four-factor solution converged in nine iterations, and comprised a total of 20 items, accounting for 67.50% of the total variance.

Table 3.5 displays the items and final factor solution, along with corresponding communalities and explained variance for each factor. As evident in this table the communalities were all high, which indicated that the extracted components represent the variables well. All of the loadings (except for three) were above .7, which is considered excellent (Comrey & Lee, 1992). As Table 3.5 shows, the cumulative shared variance explained by the four factors is 67.50%. Factor 1 accounts for the largest proportion of shared variance, with Factors 2 and 3 accounting for less. Factor 4 has less than 5% variance; the eigenvalue for this factor was .94. In ComFA procedures only shared variance is used, and extraction statistics are always lower when only shared variance is used (Hair et al., 2010). In such cases it has been suggested that scale developers can be more liberal in response to violations of percent variance or eigenvalues (Hair et al., 2010). Although the accounted variance for Factor 4 is below 5, the scree plot still suggested extraction of two or four factors, cumulatively accounting for 53.12% and 67.50% of variance respectively. Four factors account for the optimal amount of variance, and Factor 4 likely accounts for important information in the study. As mentioned previously, it has been suggested that the last few factors often represent the most “interesting and unexpected” findings theoretically, which is a good reason for retaining such factors (Tabachnick & Fidell, 2007, p. 646).
Table 3.5

*Pattern Matrix of the Structure of the Four CCQ Factors*

<table>
<thead>
<tr>
<th>CCQ item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>To take some time-out to get back on track</td>
<td>.86</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To take some time-out to regroup</td>
<td>.83</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To take some time to figure things out</td>
<td>.73</td>
<td>.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To give myself some down-time</td>
<td>.73</td>
<td>.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To take a moment for myself</td>
<td>.73</td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To disconnect from my emotions</td>
<td>-.86</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To avoid facing difficult thoughts about the situation</td>
<td>-.84</td>
<td>.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To avoid thoughts that bother me</td>
<td>-.84</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To escape unpleasant emotions</td>
<td>-.80</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To avoid feeling my emotions</td>
<td>-.80</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To help ease physical discomfort</td>
<td>-.90</td>
<td>.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To ease unpleasant physical sensations</td>
<td>-.85</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To relieve intense physical sensations</td>
<td>-.81</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get relief from pain in my body</td>
<td>-.80</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To help relax my muscles</td>
<td>-.68</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To lift my mood</td>
<td></td>
<td>.85</td>
<td>.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To feel happier</td>
<td></td>
<td>.82</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To cheer myself up</td>
<td></td>
<td>.77</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To think about something pleasant</td>
<td></td>
<td>.53</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To feel free</td>
<td></td>
<td></td>
<td></td>
<td>.43</td>
<td>.46</td>
</tr>
</tbody>
</table>

| % of Accounted Variance                          | 43.06    | 10.07    | 9.70     | 4.68     |
| Cumulative % of Accounted Variance               | 43.06    | 53.12    | 62.82    | 67.50    |

*Note.* \( h² \) = item communalities.
\( n = 499 \).

Inspection of the structure matrix in conjunction with the pattern matrix was also undertaken. Table 3.6 presents a complete version of the pattern and structure coefficients. See Appendix N for the unrotated matrix.
Table 3.6

Full Pattern and Structure Matrix

Note. Values in boldface indicate the items that represent the corresponding factor. \( n = 499 \).

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>1. To take some time out to get back on track</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. To take some time out to regroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. To take some time to figure things out</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. To give myself some down time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. To take a moment for myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. To disconnect from my emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. To avoid facing difficult thoughts about the situation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. To avoid thoughts that bother me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. To escape unpleasant emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. To avoid feeling my emotions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. To help relax my muscles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. To ease unpleasant physical sensations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. To help ease physical discomfort</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. To get relief from pain in my body</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. To help relieve my muscles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. To help reduce my muscle tension</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. To feel happier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. To cheer myself up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. To think about something pleasant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. To feel free</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pattern matrix/factor coefficients

Structure matrix/factor coefficients
From the results presented in Table 3.6 it does not appear that items correlate with one factor through another, as all appear to correlate mostly directly with their intended factor, and subsequently are relatively pure loadings. Although some items cross load at above .3 in the structure matrix, they are not of identical strength to the primary loading items. According to Tabachnick and Fiddell (2007), the pattern matrix indicates the importance of the item to the factor, with the influence of the other items partialled out, whereas the structure matrix shows simple correlations between items and factors. Therefore, correlations in the structure matrix can sometimes be overinflated by correlations between factors. In regards to the signs of factor loadings, the direction of a factor is arbitrary (Gorsuch, 1983). Accordingly, if all items of a factor load in the same direction, the sign can be ignored, as factor loadings reflect the weights and correlations of the variables with the corresponding factor. Signs do not relate to other factors in the solution (Hair et al., 2010). This condition was satisfactory for the current loadings.

Upon further investigation of the EFA model, a goodness of fit statistic, the likelihood ratio chi-square, was found to be significant, $\chi^2(116, N = 499) = 246.60, p < .01$, which indicates that the model does not fit these data. Note that the likelihood ratio chi-square was also significant when a three factor solution was specified, $\chi^2(102, N = 499) = 320.99, p < .01$, which does not suggest improved fit. However, Chi square is sensitive to sample size, and large sample sizes (> 200) generally result in significant values, as even small deviations between the model and the data can result in a significant statistic (Fabrigar et al., 1999). Fabrigar et al. (1999) argue that obtaining a “parsimonious solution that provides a good approximation to the real world” (p.280) is of more empirical interest than goodness of fit indices. This result will therefore not deter progression with the EFA, due to the large sample size and the
theoretical sense of the factor solution (which possessed a similar resemblance to what was expected).

3.6.5 Naming the factors. Semantic descriptions were assigned to the patterns of factor loadings, with higher loading items considered more important in this process (Hair et al., 2010). This procedure was followed for each extracted factor, to label the perceived functions that underlie consumptive coping. Factor 1 was labelled “Time-out” as all the items indicated that consumption was driven by the function it served to get a time-out from the stressful situation. These items were from those originally developed to capture this construct. Factor 2 consisted of items from the two scales originally developed to represent consumption as a function of distraction from thoughts and to escape or soothe emotionally, which collapsed into one factor. This factor was classified as “Escape Psyche” because consumption was motivated by the desire to avoid emotions and thoughts (features of consciousness i.e., the human psyche). Factor 3 contained items that relate to consumption that serves the purpose of relief from somatic sensations, and was labelled “Physical Relief.” Similar to Factor 1, the items that comprised this factor were originally developed for this construct domain. Factor 4 contained items that relate to consumption that served the function of elevating one’s internal state, so was labelled “Improve Mood.” They were from the scales initially developed to capture escape/soothe emotions, distract from thoughts, and also from the inductive question included in the pilot study.

3.7 Reliability Analysis

The scale demonstrated excellent internal consistency overall, with a Cronbach’s alpha coefficient of .94. This value is higher than .70, which is generally
considered the minimal standard (Hinkin, 1995). Table 3.7 contains a correlation matrix of the items and additional reliability statistics.

As evident in Table 3.7, all items correlate at or above .50 ($p < .01$) with other items in their corresponding factor. This demonstrates that each item represents and measures aspects of the same factor (Field, 2009), and is therefore suitable to be retained for the Confirmatory Factor Analysis (CFA) to be carried out in the next study. Corrected item to factor correlations were also high, all equal to or greater than .61, showing that the item correlates with a scale computed from the other items. Item means are close to the center of the possible range (one to five) of scores as desired (DeVellis, 2011; Pett et al., 2003). Variances were also acceptable, which suggests that each item discriminates sufficiently between people (DeVellis, 2011). In addition, if any item was individually removed from the scale this did not result in alpha values that were greater than the initial overall alpha. This provides further support for retention of the 20 items.

Field (2009) suggests that reliability analyses should also be carried out for subscales within a scale. Table 3.8 contains a correlation matrix that details the relationship between the four factors of the CCQ. Also included in this table is the mean inter-item correlation of each factor, and the mean score and standard deviations for each subscale. There were significant positive correlations between the factors that ranged from .40 to .60, which suggests that they were moderately to strongly correlated. The average inter-item correlations were acceptable, as would be expected from high alphas. Average factor scores were near the middle of the possible range (which was 5 to 25), however were lowest for Physical Relief. Overall, these results support the conceptualisation of these factors as related. It does not appear that orthogonal extraction was better suited for these data.
Table 3.7

Pearson's Correlation Coefficients, Corrected Item-factor Correlations, Item Means, Variances, and Alpha Reliabilities if Item Removed

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Mean</th>
<th>Item Variance</th>
<th>Alpha if Item Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.84</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>2</td>
<td>3.09</td>
<td>2.78</td>
<td>.93</td>
</tr>
<tr>
<td>3</td>
<td>2.89</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>4</td>
<td>2.97</td>
<td>2.86</td>
<td>.93</td>
</tr>
<tr>
<td>5</td>
<td>3.10</td>
<td>2.87</td>
<td>.93</td>
</tr>
<tr>
<td>6</td>
<td>3.32</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>7</td>
<td>3.34</td>
<td>2.78</td>
<td>.93</td>
</tr>
<tr>
<td>8</td>
<td>3.34</td>
<td>2.78</td>
<td>.93</td>
</tr>
<tr>
<td>9</td>
<td>3.57</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>10</td>
<td>3.46</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>11</td>
<td>3.30</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>12</td>
<td>3.46</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>13</td>
<td>3.24</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>14</td>
<td>3.46</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>15</td>
<td>3.34</td>
<td>2.84</td>
<td>.93</td>
</tr>
<tr>
<td>16</td>
<td>3.06</td>
<td>2.78</td>
<td>.93</td>
</tr>
<tr>
<td>17</td>
<td>3.00</td>
<td>2.78</td>
<td>.93</td>
</tr>
<tr>
<td>18</td>
<td>3.00</td>
<td>2.78</td>
<td>.93</td>
</tr>
</tbody>
</table>

Note: Values in boldface represent the adjacent factor. Item numbers represent items as presented in Table 3.6.

n = 499.

*p < .05

*p < .01

Factor Mean

Factor 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Table 3.8

**Correlations, Reliabilities, and Descriptive Statistics for the CCQ Factors**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Time-out</th>
<th>Escape Psyche</th>
<th>Physical Relief</th>
<th>Improve Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-out</td>
<td>1.00</td>
<td>.40**</td>
<td>.45**</td>
<td>.60**</td>
</tr>
<tr>
<td>Escape Psyche</td>
<td>1.00</td>
<td></td>
<td>.47**</td>
<td>.57**</td>
</tr>
<tr>
<td>Physical Relief</td>
<td></td>
<td>1.00</td>
<td>.45**</td>
<td></td>
</tr>
<tr>
<td>Improve Mood</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

\( M \) Inter-item r: .65, .72, .67, .59

Factor score \( M \): 14.76, 14.67, 11.17, 16.30

Factor score SD: 5.90, 6.58, 6.05, 5.51

*Note. M = Mean; r = Pearson’s correlation; SD = Standard Deviation.*

\( n = 499 \).

** = \( p < .01 \).

It was also necessary to examine the Cronbach’s alpha coefficients of the CCQ on a factor level. Table 3.9 displays the alphas for each factor overall, and also for each factor if an item was deleted from the subscale. As evident from these results, the alpha reliabilities for each factor were excellent, ranging from .88 to .93. Further, after removal of each item the overall alpha for each factor remained within a high range. As a result, all 20 items will be retained at this point of development of the CCQ.
Table 3.9
*Cronbach’s Alpha for Factors, and for Factor if Item Deleted.*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Factor alpha</th>
<th>Alpha if deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-out</td>
<td>To take some time-out to get back on track</td>
<td>.90</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>To take some time-out to regroup</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To take some time to figure things out</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To give myself some down-time</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To take a moment for myself</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td>Escape</td>
<td>To disconnect from my emotions</td>
<td>.93</td>
<td>.91</td>
</tr>
<tr>
<td>Psyche</td>
<td>To avoid facing difficult thoughts about the situation</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To avoid thoughts that bother me</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To escape unpleasant emotions</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To avoid feeling my emotions</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>To help ease physical discomfort</td>
<td>.91</td>
<td>.88</td>
</tr>
<tr>
<td>Relief</td>
<td>To ease unpleasant physical sensations</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To relieve intense physical sensations</td>
<td>.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To get relief from pain in my body</td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To help relax my muscles</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Improve</td>
<td>To lift my mood</td>
<td>.88</td>
<td>.85</td>
</tr>
<tr>
<td>Mood</td>
<td>To feel happier</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To cheer myself up</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To think about something pleasant</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To feel free</td>
<td>.88</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $n = 499$.

### 3.8 Validity Testing

Convergent and divergent validity was assessed by exploration of the relationship between the CCQ and relevant variables. Table 3.10 displays the correlations between the total and factor scores of the CCQ with the validity measures.
Table 3.10

*Pearson’s Correlation Coefficients between the CCQ and Validity Measures*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Sub-scale</th>
<th>CCQ</th>
<th>Escape</th>
<th>Physical</th>
<th>Improve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Time-out</td>
<td>Psyche</td>
<td>Relief</td>
</tr>
<tr>
<td>CSI</td>
<td>Avoidance</td>
<td>.53**</td>
<td>.31**</td>
<td>.53**</td>
<td>.42**</td>
</tr>
<tr>
<td>CSI</td>
<td>Problem Solving</td>
<td>.09*</td>
<td>.23**</td>
<td>-.09*</td>
<td>.08</td>
</tr>
<tr>
<td>CSI</td>
<td>Social Support</td>
<td>.10*</td>
<td>.14**</td>
<td>-.04</td>
<td>.11*</td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>-.13**</td>
<td>.03</td>
<td>-.24**</td>
<td>-.14**</td>
</tr>
<tr>
<td>AAQ</td>
<td></td>
<td>.43**</td>
<td>.19**</td>
<td>.52**</td>
<td>.37**</td>
</tr>
<tr>
<td>DTS</td>
<td>Total</td>
<td>-.47**</td>
<td>-.24**</td>
<td>-.51**</td>
<td>-.37**</td>
</tr>
<tr>
<td></td>
<td>Tolerance</td>
<td>-.41**</td>
<td>-.21**</td>
<td>-.44**</td>
<td>-.32**</td>
</tr>
<tr>
<td></td>
<td>Absorption</td>
<td>-.45**</td>
<td>-.22**</td>
<td>-.47**</td>
<td>-.36**</td>
</tr>
<tr>
<td></td>
<td>Appraisal</td>
<td>-.41**</td>
<td>-.17**</td>
<td>-.50**</td>
<td>-.34**</td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td>-.36**</td>
<td>-.24**</td>
<td>-.36**</td>
<td>-.25**</td>
</tr>
<tr>
<td>RSE</td>
<td></td>
<td>-.34**</td>
<td>-.12**</td>
<td>-.45**</td>
<td>-.28**</td>
</tr>
<tr>
<td>SDS</td>
<td></td>
<td>-.07</td>
<td>-.01</td>
<td>-.07</td>
<td>.03</td>
</tr>
</tbody>
</table>

*Note.* CSI = Coping Strategy Indicator; GSES = General Self-Efficacy Scale; AAQ = Acceptance and Action Questionnaire II; DTS = Distress Tolerance Scale; RSE = Self-Esteem Scale; SDS = Social Desirability Scale.

\[ n = 499. \]

\[ * = p < .05, ** = p < .01. \]

Total CCQ scores correlated positively to a strong degree with Avoidance coping scores, and positively to a moderate degree with Experiential Avoidance scores (measured by the AAQ). Overall CCQ scores also correlated negatively to a moderate degree with Distress Tolerance, and Self-Esteem scores. The four factors of the CCQ displayed a number of significant moderate to strong relationships with the validity measures. Time-out shared moderate positive relationships with Avoidance scores. Escape Psyche scores shared strong positive relationships with Avoidance and Experiential Avoidance scores. The inverse relationships between Escape Psyche and
Distress Tolerance scores ranged from strong to moderate, and Escape Psyche related negatively to a moderate degree with Self-esteem scores. Physical Relief scores shared moderate positive relationships with Avoidance coping and Experiential Avoidance scores, and negative relationships of the same degree with Distress Tolerance (excluding Regulation) scores. Improve Mood scores were moderately correlated in a positive direction with Avoidance and with overall Distress Tolerance and Absorption scores. The remaining correlations amongst these variables were small in magnitude, although many were significant. Correlations between the CCQ and the SDS were weak, perhaps indicating that socially desirable responding is not associated with, and is therefore not a concern for, the validity of the CCQ.

3.9 CCQ and Non-CCQ Group Differences

Measures included in the questionnaire battery were used to examine potential differences between individuals who reported that they used the consumptive coping strategy and individuals who did not report consumptive coping. The CCQ supplementary question regarding perceived stressfulness of the situation was also examined between the groups. A random sample of 162 participants was selected from the CCQ group to ensure equal group size for comparison with the Non-CCQ group.\(^2\) Table 3.11 displays the results of comparisons between these groups on the measures. To account for an inflated familywise error rate a Bonferroni adjustment was used and the alpha level set at .004. The \(t\)-tests revealed that the CCQ group tended to perceive their stressful event as significantly more stressful than the Non-CCQ group. Individuals who consume to cope also reported using significantly more

\(^2\) The analyses were conducted again among another randomly selected group of 162 individuals from the CCQ group, with the same pattern of findings.
avoidance coping strategies, reported significantly lower levels of distress tolerance with respect to subjective appraisal of distress, and also reported significantly higher levels of experiential avoidance.

Table 3.11

*Independent Samples t-tests that Compared the CCQ and Non-CCQ Groups*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>CCQ</th>
<th>Non-CCQ</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCQ</td>
<td>Stressfulness</td>
<td>4.19</td>
<td>3.83</td>
<td>.87</td>
<td>1.08</td>
<td>.001**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.30</td>
<td>.98</td>
<td>.93</td>
<td>3.24</td>
<td>.014</td>
</tr>
<tr>
<td>CSI</td>
<td>Avoidance</td>
<td>22.25</td>
<td>20.32</td>
<td>5.03</td>
<td>5.07</td>
<td>.001**</td>
</tr>
<tr>
<td></td>
<td>Problem Solving</td>
<td>23.30</td>
<td>23.77</td>
<td>5.23</td>
<td>5.72</td>
<td>.448</td>
</tr>
<tr>
<td>CSI</td>
<td>Social Support</td>
<td>20.45</td>
<td>19.88</td>
<td>6.41</td>
<td>6.40</td>
<td>.421</td>
</tr>
<tr>
<td>CSI</td>
<td>CPR-CSI</td>
<td>28.11</td>
<td>29.57</td>
<td>5.89</td>
<td>5.70</td>
<td>.024</td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>28.04</td>
<td>24.52</td>
<td>10.58</td>
<td>10.52</td>
<td>.003**</td>
</tr>
<tr>
<td>AAQ</td>
<td></td>
<td>2.98</td>
<td>3.24</td>
<td>1.00</td>
<td>1.14</td>
<td>.037</td>
</tr>
<tr>
<td>DTS</td>
<td>Total</td>
<td>2.94</td>
<td>3.28</td>
<td>1.17</td>
<td>1.14</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td>Tolerance</td>
<td>2.91</td>
<td>3.28</td>
<td>1.24</td>
<td>1.17</td>
<td>.001**</td>
</tr>
<tr>
<td></td>
<td>Absorption</td>
<td>3.11</td>
<td>3.48</td>
<td>1.07</td>
<td>1.09</td>
<td>.676</td>
</tr>
<tr>
<td></td>
<td>Appraisal</td>
<td>2.95</td>
<td>3.00</td>
<td>1.03</td>
<td>1.09</td>
<td>.015</td>
</tr>
<tr>
<td>RSE</td>
<td></td>
<td>16.19</td>
<td>17.99</td>
<td>6.55</td>
<td>6.69</td>
<td>.015</td>
</tr>
</tbody>
</table>

*Note.* CCQ = Consumptive Coping Questionnaire; CSI = Coping Strategy Indicator; GSES = General Self Efficacy Scale; AAQ = Acceptance Action Questionnaire II; DTS = Distress Tolerance Scale; RSE = Self Esteem Scale.

The primary aim of this study was to identify the factors that underlie the core item pool developed for the CCQ. The CCQ was developed to evaluate the perceived
functions of the consumption of food, caffeine, cigarettes, alcohol and other drugs as a coping strategy. Through EFA the dimensions or groupings among the exploratory set of items was statistically explored, and the most representative items were retained. It was anticipated that an EFA of the items of the CCQ would reveal five factors: escape/soothe emotions, physical relief, distraction from thoughts, time-out and self-punishment. However, the EFA process led to the emergence of four factors. These four factors were labelled Time-out, Escape Psyche, Physical Relief, and Improve Mood, and each comprised of five items. Although not identical to what was initially expected, the factor structure remained somewhat consistent with theory. These factors were considered satisfactory in contributing to the evaluation and measurement of the functions that underlie consumptive coping.

The first factor to emerge was Time-out, which contained items from the pool that were originally devised to measure this construct. The items retained loaded as desired on this factor of the CCQ, suggesting each item assessed the same latent construct. This factor was designed to assess consumption that is perceived to facilitate a time-out from the situation in order to regroup ones internal resources. An individual perceives that the activity of consumption creates a means to avoid dealing with the stressful event right away.

The second factor to emerge was Escape Psyche. This factor contained items that were originally devised to measure the two hypothesised functions of escape/soothe emotions and distraction from thoughts. Rather than representing two distinct factors as initially hypothesised, items combined to form one function of consumptive coping that relates to avoidance or escape from aspects of one’s psychological state: inclusive of emotions and thoughts. Subsequently, an individual perceives that consumption helps to soothe, avoid or escape from negative emotions
as well as direct attention away, avoid or disengage from stressful thoughts. Each item retained loaded heavily on this factor, suggesting that this factor measures the same underlying construct. A possible explanation for why these items loaded together is that unpleasant thoughts and emotions are experienced concurrently, and are therefore best measured as one construct rather than as separate features the human experience.

The third factor to emerge was Physical Relief. All items that loaded on this factor related to consumption that was perceived to ease the physical manifestations of stress that may occur during a stressful event. These items were originally devised to assess the physical relief function of consumptive coping. All items were therefore specific to relief of physical sensations, discomfort, and pain in the body.

The fourth and final factor to emerge was Improve Mood. Similarly to the items that represent Escape Psyche, the items that comprised this factor were primarily from those originally developed to assess consumption that serves to escape/soothe emotions and distract from thoughts. However, the items that loaded on Improve Mood collectively represent a factor that appears to assess consumption that is perceived to enhance or elevate how one feels during a stressful experience. Notably, one of the items that comprise this factor “to feel free” was inductively derived from a theme that emerged from respondents’ qualitative responses in the pilot study. A possible explanation for these results is that the function of improving one’s internal state (as measured by Improve Mood) is distinct from the function of avoiding an unpleasant internal state (as measured by Escape Psyche) when coping with a stressful event.

Another noteworthy deviation from the hypothesised factor structure related to the self-punishment items. These items were removed prior to the EFA, due to the heavily skewed distribution of responses. The majority of responses (approximately
to these items indicated that these functions were not true of respondents, which resulted in a pronounced positive skew. If included, these items would have formed a factor based on the evident skew, pertaining to how self-punishment was not a function of consumption for the majority of participants. A possible explanation of these results is that self-punishment may be a function of consumptive coping only for an exclusive group of individuals. Future research that focuses on self-punishment phenomena could investigate the characteristics of individuals who consume to cope in order to punish themselves. The perceived function of self-punishment therefore remains valuable, but perhaps beyond the scope of the current scale, which is targeted at the general population.

Four factors were derived from the EFA procedures outlined in this study: Time-out, Escape Psyche, Physical Relief and Improve Mood. Although the items developed to measure escape/soothe emotions, distraction from thoughts and self-punishment did not perform as hypothesised, the factor structure revealed through the EFA loadings still made theoretical sense. Furthermore, changes to expected factor structures are common in EFA (Costello & Osborne, 2005; DeVellis, 2011; Thompson, 2004). The stability of the factor structure revealed through the EFA will be examined via Confirmatory Factor Analyses (CFA) in the next study among a new sample of participants. Results of the CFA will either confirm or disconfirm the feasibility of the factor structure revealed in this study.

The second aim of Study 1 was to examine the reliability and validity of the CCQ. Following the EFA, internal consistency and item reliability were examined as an indicator of the items’ ability to reflect common underlying constructs. At this exploratory stage, the CCQ showed very good to excellent internal consistency, at both the overall and subscale/factor level, and removal of any items would not
increase alpha coefficients at an overall or factor level. Depending on how the scale performs in the CFA to be undertaken in the next study, the high reliability coefficients suggest that it may be possible for the scales to be shortened, as reliability may still remain within a very good range (DeVellis, 2011). In early stages of scale construction item covariation may be due to chance, so it is preferable to endeavour for high alpha levels, allowing for deteriorations in future CFA studies (DeVellis, 2011). Correlations between the items and corresponding factors were statistically significant and within an appropriate range of .50 to .79. As the correlations among items of the CCQ were moderate to large with only 20 items, these results are satisfactory. These findings suggest that the factors of the CCQ revealed through EFA demonstrate appropriate reliability.

In scale development practices, it is also important that newly developed scales work towards the establishment of convergent and divergent/discriminant validity (Foster & Cone, 1995). The measures used in Study 1 to examine convergent and divergent validity were chosen due to their psychometric properties and also because of their practical and theoretical utility for validity assessment with the CCQ. Based on the results, this exploratory version of the CCQ appeared to possess adequate convergent and divergent validity.

For convergent validity it was hypothesised that the CCQ factors would correlate positively (to a moderate degree) with measures of avoidant coping and experiential avoidance, and negatively (to a moderate degree) with measures of self-efficacy, distress tolerance and self-esteem. For avoidant coping, higher endorsement of the CSI Avoidance subscale significantly related to higher scores on the CCQ overall and subscales to at least a moderate degree. As consumptive coping is considered an avoidant coping strategy, it is possible that individuals who consume to
cope (and endorse the avoidant/emotion focused functions of the CCQ) may also tend to use other avoidant-oriented coping strategies.

Higher endorsement of experiential avoidance, (where high AAQ-II scores reflect greater experiential avoidance, immobility and psychological inflexibility, and low scores reflect greater acceptance and action), significantly related to higher scores of the CCQ overall, Escape Psyche, and Physical Relief subscales to at least a moderate degree. To a lesser degree this significant positive trend was also evident for Time-out and Improve Mood. These findings make theoretical sense as the CCQ and the AAQ-II represent similar constructs that incorporate avoidance of unpleasant internal states. Consumptive coping is employed to avoid a stressful event and the unpleasant internal experiences associated with it. Experiential avoidance relates to avoidance of a broader range of experiences, and may incorporate various methods to alter or avoid internal experiences.

High scores on the GSES indicate higher self-efficacy. Results of Study 1 revealed that lower endorsement of self-efficacy related significantly with higher scores of the CCQ overall, Escape Psyche and Physical Relief, although relationships were small in magnitude. While these relationships were in the desired direction, they were not of sufficient strength to support convergent validity, nor were the weak relationships that were found with Time-out and Improve Mood. Higher endorsement of the functions of consumptive coping was expected to be associated with lower self-efficacy, possibly because individuals with lower belief in their ability to cope may utilise avoidance strategies (such as consumptive coping). This variable will be reexamined in Study 2, among a new sample.

There was partial support for convergent validity in the relationships with distress tolerance, as scores on the DTS and the CCQ significantly correlated in a
negative direction (ranging from moderate to weak relationships). The relationship with distress tolerance indicated that greater endorsement of the functions of consumptive coping tended to correlate with lower levels of distress tolerance. It could be possible that the emotion-focused and avoidance oriented functions of consumptive coping may be preferable to individuals who experience difficulties tolerating distress in a broader sense.

Lower endorsement of self-esteem measured by the RSE significantly related to higher scores for the CCQ overall and Escape Psyche to a moderate degree, providing evidence for convergent validity. Time-out, Physical Relief, and Improve Mood also related in this direction, although despite being significant, were of weak strength. Individuals lower in self-esteem may utilise consumptive coping to escape unpleasant emotions and thoughts in particular when dealing with a stressful event. Perhaps the relationship between self-esteem and Escape Psyche is associated with the negative attitudes of the self that are often inherent to low self-esteem, rather than coping specific thoughts and emotions. Nevertheless, the notion that low self-esteem may be associated with selection of avoidant coping strategies is consistent with previous research (Eisenbarth, 2012).

Overall there was some support for the convergent validity hypotheses, with some of the correlations providing evidence that the scales converge to a moderate degree on related constructs in a manner consistent with theoretical expectations. Further, correlations did not exceed .53, which indicates that the CCQ appears to measure a related, yet distinct construct.

For divergent validity it was expected that the CCQ would not correlate (or very weakly correlate) with measures of problem focused and seeking social support coping. This was generally supported, as only small correlations were found between
the CCQ and CSI subscales of Problem Solving and Seeking Social Support. Although some of these correlations were significant, they did not reach moderate strength. This may indicate that the emotion-focused/avoidant functions of consumptive coping examined through the CCQ are distinct to problem-focused and social support oriented coping.

A final research focus was to compare scores on the validity measures across individuals who consumed to cope and individuals who did not engage in this strategy. The findings of these exploratory analyses provided some support for the salience of consumptive coping, and the merit of investigating this phenomenon independently. Results indicated that individuals who consume to cope differed significantly from individuals who did not use this coping strategy on a number of the measures. Specifically, individuals who reported consumptive coping appeared to perceive their nominated stressful event as significantly more stressful than those who did not consume to cope. The CCQ group also engaged in significantly more avoidance coping strategies, but did not differ significantly on problem-focused or social support oriented strategies when compared to the Non-CCQ group. There was also a significant difference between these groups on distress tolerance appraisals, whereby individuals who consumed to cope reported significantly lower levels of this facet of distress tolerance. Individuals who consume to cope were also observed to report significantly greater levels of experiential avoidance, indicating that compared to individuals who did not consume to cope, those who engage in consumptive coping may experience greater psychological inflexibility and unwillingness to connect with internal experiences.

Collectively the abovementioned results may suggest that consumptive coping is more likely to occur as perceptions of the stressfulness of the event are higher, and
that consumptive coping is possibly associated with a general tendency for avoidance. However, the event might be perceived as more stressful by the CCQ group, and these individuals may tend to avoid the stressful event and unpleasant internal experiences because coping strategies are poorer (perhaps due to a reliance on avoidance coping). Although the analyses pertaining to differences between individuals who consume to cope and individuals who do not were exploratory, the results suggest that consumptive coping may be linked to unique psychological characteristics that are experienced to a greater degree among those who consume to cope compared to those who do not. This idea will be developed further in the general discussion after additional comparisons have been conducted between individuals who engage in this coping strategy and individuals who do not in Study 2.

Study 1 presents an important avenue of inquiry that directly relates to the primary objectives of the wider investigation undertaken. A self-report scale was developed to measure consumptive coping and was examined for its ability to measure specific functions that underlie this construct. To date, a major limitation of the research concerned with the domain of consumptive coping is that this construct has rarely been examined comprehensively in its own right. Furthermore, research has not typically extended upon examination of the overarching avoidance/emotion-focused function. The CCQ and the relationships that this new measure shared with the validity measures demonstrate the potential value of exploring the specific perceived functions of consumptive coping. This extends upon previous research that typically examines the broader function of avoidance or emotion-focused coping.

There are, however, limitations of this study. These range from those associated with the sample (e.g., a convenience sample was used), the research design (e.g., the results are based on cross sectional data), and the CCQ itself (e.g., self-
report measures rely on accurate memory recall). Each of these will be addressed in detail in the general discussion chapter of this thesis, as they relate to all studies undertaken. However, a design-oriented limitation specific to this study was revealed through certain patterns of responding to the CCQ by some participants. Specifically, some participants indicated that they increased consumption during stressful situations, then failed to complete the CCQ core item pool. As a result, in Study 2 participants will be required to complete the CCQ item pool, taking the responsibility away from the participant to select the correct section of the battery to complete. It is acknowledged that this means that participants who do not consume to cope will be selecting not at all true of me in all responses to the CCQ. As the questionnaire now only comprises 20 items, this is not considered an undue burden for respondents.

Despite any limitations of the study, consumptive coping was reported in over three quarters (nearly 85%) of the total sample, which could indicate a pervasive utilisation of this coping strategy. Furthermore, of those who did increase consumption during the stressful situation, a little over two thirds of these individuals consumed two or more substances. It does appear that coping oriented consumption (of a range of substances) was commonplace. It is recognised that much further research into the CCQ and consumptive coping is needed, in order to understand the broader implications, if any, that may be associated with this coping strategy.

3.10 Summary

The CCQ, a self-report questionnaire, was designed to measure consumptive coping and the functions that are perceived to be served by this strategy. Analysis of the core item pool revealed four factors labelled Time-out, Escape Psyche, Physical
Relief and Improve Mood. The CCQ displayed excellent reliability, satisfactory convergent and divergent validity, and showed differences between those who consume to cope and those who do not. However, there should be caution in drawing definitive conclusions from this exploratory version of the CCQ. Further testing is needed to confirm the factor structure revealed in the current study. In addition, more detailed analyses of the CCQ will be undertaken in the study to follow, once the factors have been confirmed. It can be concluded from this study that the CCQ, despite requiring further refinement and development, appears to be an instrument that upon further investigation of the psychometric properties, may be developed into a robust measure of consumptive coping and the functions that underlie this strategy.
Chapter 4

Further Evaluation and Refinement of a Measure of
Consuming to Cope (Study 2)
The revised version of the Consuming to Cope Questionnaire (CCQ) was developed as a result of the preliminary evaluations outlined in Chapters 2 and 3. At this stage of development there were 20 items in total. Five items represented each function of consumptive coping; Time-out, Escape Psyche, Physical Relief, and Improve Mood. In order to investigate whether the factor structure identified through EFA could be replicated, Confirmatory Factor Analysis (CFA) was undertaken in Study 2. Internal consistency reliability and convergent and divergent validity were inspected for further psychometric evaluation of the CCQ. Exploration of how the CCQ relates to measures of stress appraisals, depression, anxiety and stress symptoms, and mindfulness was also conducted. The process and rationale that informed this stage of refinement of the CCQ are outlined below.

Analogous to its name, CFA takes a confirmatory approach to the analysis of the relationship between variables, and is used to test the fit of theoretically derived models to a data set (Byrne, 2010; Thompson, 2004). CFA entails the use of Structural Equation Modeling (SEM), a statistical modeling technique, that involves a comprehensive analysis of covariance structures (Byrne, 2010). CFA was used to examine whether the structure of the interrelationships between observed and latent variables of the CCQ that was revealed in Study 1 can be reproduced in another sample. The outcome of CFA will either support or disconfirm the reliability of the factor structure and general scale validity (Worthington & Whitaker, 2006). CFA is thus a valuable tool in scale development practices (Byrne, 2010; DeVellis, 2011; Jackson, Gillaspy, & Purc-Stephenson, 2009; Pett et al., 2003), and has been applied in the refinement of numerous coping scales (e.g., Amirkhan, 1990; Brown & Ryan, 2003; Cohan, Jang, & Stein, 2006; Jackson et al., 2003; Kowalski & Crocker, 2001; Murphy et al., 2003; Senol-Durak & Durak, 2011; Simons & Gaheer, 2005).
Advantages of CFA relate to the flexibility associated with altering SEM models if required, and also the capacity to obtain fit indices regarding adequacy of the model (DeVellis, 2011). An ill-fitting model can be manipulated to improve model fit. Two types of fit statistics are relevant to the current analyses; absolute fit measures and incremental fit measures (Ho, 2006). Absolute fit indices such as the chi-square statistic, the Goodness of Fit Index (GFI) and the Root Mean Square Error of Approximation (RMSEA) determine the extent that the proposed model fits the observed covariance matrix (Byrne, 2010; Ho, 2006; Steiger & Lind, 1980). In contrast, incremental fit measures such as the Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) compare the proposed model to a baseline model (the null or independence model) (Ho, 2006; Hu & Bentler, 1999; Tucker & Lewis, 1973). Caution is warranted with the interpretation of incremental fit indices, as cut-off points can be influenced by sample sizes, estimators and distributions (Hu & Bentler, 1999). In general, fit indices are useful tools in model evaluation, and best practice typically recommends the use of various fit indices (Byrne, 2010). For this reason, all of the absolute and incremental fit measures mentioned will be examined in evaluation of the CCQ.

There are however, some limitations associated with CFA. It has been suggested that the flexibility associated with SEM can lead to over-factoring and over-fitting a model based on statistical grounds rather than theoretical considerations (DeVellis, 2011). Interpretation of CFA models should therefore always be in conjunction with theory that underpins the model, and adequate fit must also be taken in consideration with interpretability of parameter estimates and complexity of the model (DeVellis, 2011). In addition, a good fit does not always imply a good model, as goodness of fit measures lack of fit, not model plausibility, an issue that is best
addressed by the judgment of the researcher, and based on “theoretical, statistical and practical considerations” (Byrne, 2010, p.84). Accordingly, CFA is somewhat of an interactive statistical procedure, where the researcher can modify a model based on theoretical and statistical grounds.

The assessment of reliability and validity of the CCQ was also explored in the current study. Such analyses are an integral part of scale development, ideally assessed at each stage of scale refinement (DeVellis, 2011). Internal consistency reliability relates to the interrelationships between CCQ items and factors, which in this study was assessed via Cronbach’s alpha and inter-item correlations. Convergent and divergent validity determines the extent to which the CCQ measures what it proposes to, through how well the measure is associated with, or distinct from, relevant constructs. For validity assessment, a selection of the constructs that were applied in Study 1 were also utilised in Study 2. As with Study 1 it was predicted that the CCQ would relate positively to avoidant coping, and negatively to self-efficacy. It was also anticipated that the CCQ would not share, or share only a weak relationship with problem solving and seeking social support coping.

Unique to Study 2 was the inclusion of additional measures not related to convergent and divergent validity. These measures are concerned with stress appraisals, symptoms of depression, anxiety and stress, and mindfulness. They were incorporated to attain insight into the nature of consumptive coping, and were selected as variables of relevance to a transactional informed analysis of coping.

Stress appraisals are considered important in the conceptualisation of coping as a process or transaction between an individual and their environment, and were discussed in detail in Section 1.2.4. Appraisals of the dynamics of a stressful encounter are typically classified as primary (e.g., perceptions of harm, threat or
challenge) or secondary (e.g., available coping resources) (Lazarus & Folkman, 1984). Examination of the nature of stress appraisals is useful as it identifies interpretations of a stressful encounter, which may be associated with the types of coping strategies employed by an individual (Lazarus & Folkman, 1984). In the current research exploration of the associations between appraisals and consumptive coping may provide a more comprehensive picture of the contexts within which this coping strategy occurs.

Unpleasant intrapersonal experiences including depression, anxiety and stress symptoms may also be associated with coping, and were addressed in Section 1.5. These psychological distress symptoms could be linked to or be possible outcomes of avoidant coping (Grant et al., 2013; Penley et al., 2002). Exploration of the relationship between the CCQ and such psychological distress symptoms will identify whether greater endorsement of the functions of consumptive coping coincides with experiencing these unpleasant internal experiences.

Mindfulness is defined as an individual’s level of attention and awareness of present moment experiences (e.g., thoughts, bodily sensations, and emotions) (Segal et al., 2013). As described in Section 1.5, mindfulness may influence the coping process in its capacity as a person factor within the transactional model. Mindfulness may also represent an opposite dimension of experiential avoidance, which was examined in Study 1. The findings of which suggested that the tendency to avoid internal experiences was associated with greater endorsement of the functions of consumptive coping. Findings of Study 1 also suggested that difficulties tolerating distress were associated with greater endorsement of the functions of the CCQ. Accordingly, it was appropriate to examine whether mindfulness, perhaps an adaptive counterpart to avoidance constructs, relates to the CCQ. The functions of consumptive
coping infer avoidance of the stressful event and the associated unpleasant emotions and physical sensations aroused by the event. Greater dispositional mindfulness is in contrast to these functions as it is not characterised by compulsive or automatic actions that avoid experiences, but rather incorporates awareness and non-avoidance (Brown & Ryan, 2003).

4.1 Research Aims

It has been established that four factors best represent the items that comprise the CCQ, or functions of consumptive coping. The primary aim of the present study was to determine whether the expected factor structure of Time-out, Escape Psyche, Physical Relief and Improve Mood, could be replicated in a new sample and produce an adequate fit within a different data set. It was anticipated that a CFA of the 20 CCQ items would reveal these four factors that load onto a higher-order factor or general emotion-focused/avoidance function of consumptive coping.

A second aim was to further examine the psychometric properties of the CCQ, via examination of the internal reliability of the CCQ, and also via convergent and divergent validity assessment. It was hypothesised that the CCQ would display satisfactory internal consistency. Regarding validity, it was hypothesised that higher scores on the CCQ would correlate positively (to a moderate degree) with higher emotion-focused/avoidance coping, and would correlate negatively (to a moderate degree) with lower self-efficacy. For divergent validity it was anticipated that the CCQ would not correlate (or only weakly correlate) with measures of problem solving and seeking social support coping.
A final research focus involved exploratory analyses of the CCQ with selected variables. The extent that scores on the CCQ related to age and sex was examined. In addition, whether CCQ scores were related to the number of substances consumed was assessed in order to compare the functions endorsed by individuals that consumed either one, two, or three or more substances. In other analyses, individuals who increased consumption of only one substance were grouped according to the type of substance they consumed. This was to explore possible differences on CCQ scores that may be associated with the specific type of substance consumed. Responses to the CCQ were then examined to investigate whether there were any significant differences between these particular groups. It was also tentatively hypothesised that higher CCQ scores would correlate with higher negative stress appraisals (e.g., threat), higher depression, anxiety, and stress symptoms, and lower mindfulness and positive stress appraisals (e.g., controllable by others). Lastly, similar to Study 1, individuals who reported consumptive coping were compared to individuals who did not consume to cope on several measures included in the questionnaire battery. Such findings may have implications for the clinical relevance of this particular coping strategy, and directions for future research; particularly if those who consume to cope score significantly higher on depression, anxiety and stress and lower on mindfulness than those that do not consume to cope.

**Method**

### 4.2 Participants

Participants were recruited from the Australian general public and from the Australian Catholic University, Melbourne campus. Recruitment occurred via
advertisements about a research study on coping on an online social network (http://www.facebook.com), or alternatively through an internal network on the university website. Participants were therefore members of facebook from the general public or university students. Participation was voluntary, and consent was implied by full completion of the online questionnaires by individuals over the age of 18. Students from the university were eligible for course credit for participation in the study.

There were 1,139 volunteers who began the process of completing the online questionnaires. Of these volunteers, 531 did not complete the battery of questionnaires and so were excluded from analyses. Consent was not obtained for these individuals as incomplete responses were deemed to infer withdrawal of consent (as stipulated in the information letter). The sample therefore included 608 participants 25% of which were male, and 75% of which were female. Male respondents had a mean age of 36 years ($SD = 17.63$) and ranged in age from 18 to 81. Female respondents had a mean age of 31 years ($SD = 14.60$) and ranged in age from 18 to 76. The majority of participants were born in Australia (83%).

Based on responses to the first section of the CCQ that preceded the core item pool, the participants were categorised into two mutually exclusive groups. One group endorsed consuming to cope ($n = 462$), whereas the other did not endorse this coping strategy ($n = 146$). Table 4.1 contains the demographic characteristics of the CCQ and Non-CCQ groups. The CCQ group tended to be significantly younger than the Non-CCQ group, $t (205) = -2.95, p = .004$, although the magnitude of the differences in the means was small ($d = .29$). Members of the CCQ group were also more likely than members of the Non-CCQ group to be students, not living with their partner, and born
in Australia. The Non-CCQ group was more often unemployed and married than members of the CCQ group.

Table 4.1

Demographic Characteristics of the Groups that Comprise the Study 2 Sample

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>CCQ</th>
<th>Non-CCQ</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>462</td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Age: Mean</td>
<td>31.44</td>
<td>36.14</td>
<td>.004**</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>14.62</td>
<td>17.94</td>
<td></td>
</tr>
<tr>
<td>Sex: Male</td>
<td>24.0%</td>
<td>27.8%</td>
<td>.43</td>
</tr>
<tr>
<td>Female</td>
<td>76.0%</td>
<td>72.2%</td>
<td></td>
</tr>
<tr>
<td>Education level: High school</td>
<td>33.5%</td>
<td>29.9%</td>
<td>.72</td>
</tr>
<tr>
<td>TAFE (Technical and Further Ed)</td>
<td>10.9%</td>
<td>13.9%</td>
<td></td>
</tr>
<tr>
<td>Tertiary (Undergraduate)</td>
<td>41.6%</td>
<td>41.7%</td>
<td></td>
</tr>
<tr>
<td>(Postgraduate)</td>
<td>13.9%</td>
<td>14.6%</td>
<td></td>
</tr>
<tr>
<td>Work Status: Student</td>
<td>17.8%</td>
<td>12.5%</td>
<td>.01*</td>
</tr>
<tr>
<td>Employed</td>
<td>28.5%</td>
<td>31.9%</td>
<td></td>
</tr>
<tr>
<td>Employed student</td>
<td>41.2%</td>
<td>32.6%</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>7.7%</td>
<td>14.6%</td>
<td></td>
</tr>
<tr>
<td>Stay at home parent or carer</td>
<td>4.7%</td>
<td>8.3%</td>
<td></td>
</tr>
<tr>
<td>Relationship status: Single</td>
<td>47.6%</td>
<td>43.1%</td>
<td>.01*</td>
</tr>
<tr>
<td>Not living with partner</td>
<td>23.0%</td>
<td>13.9%</td>
<td></td>
</tr>
<tr>
<td>Married/living with partner</td>
<td>29.4%</td>
<td>43.0%</td>
<td></td>
</tr>
<tr>
<td>Place of birth: Australia</td>
<td>84.8%</td>
<td>75.7%</td>
<td>.02*</td>
</tr>
<tr>
<td>Overseas</td>
<td>15.2%</td>
<td>24.3%</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $p$ value is based on Chi-Square test for the categorical variables, and is based on independent sample $t$-test for the continuous variables.

* = $p < .05$; ** = $p < .01$. 
4.3 Materials

4.3.1 Demographic questionnaire. Basic demographic information (i.e., age, gender, etc) was collected. The questionnaire was identical to the measure used in Study 1 (Appendix H).

4.3.2 The Consuming to Cope Questionnaire (CCQ). The supplementary questions and instructions of the CCQ were described in detail in Study 1. As a result of EFA revisions, the core item pool of the CCQ contains 20 self-report items that represent four perceived functions of consumption as a coping strategy. These functions include Time-out (e.g., “to take some time-out to regroup”), Escape Psyche (e.g., “to avoid feeling my emotions”), Physical Relief (e.g., “to relieve intense physical sensations”) and Improve Mood (e.g., “to cheer myself up”). High scores on the CCQ indicate high levels of endorsement of the functions that underlie consuming to cope, and low scores indicate low endorsement, with possible scores ranging from 20 to 100 for the CCQ overall, and 5 to 25 for each subscale. (Appendix O contains the version of the CCQ that was utilised in Study 2).

4.3.3 The Coping Strategy Indicator (CSI, Amirkhan, 1990). The CSI was described in detail in Study 1. Three factors are comprised of items that pertain to Seeking Social Support, Problem Solving, or Avoidance coping strategies. The Cronbach’s alpha coefficient for the CSI in the current study was .94 for Seeking Social Support, .90 for Problem Solving, and .81 for Avoidance, which suggests good internal consistency.

4.3.4 The Ways of Coping Scale – Revised (WOCS-R, Folkman et al, 1986). The WOCS-R is a situation specific coping measure in which respondents are asked to indicate the extent to which they applied 66 coping responses to a recent
stressful situation. Of the eight subscales that comprise this measure, only Planful Problem Solving and Escape-avoidance were used in the current study. Planful Problem Solving contains six items (e.g., “I made a plan of action and followed it”). The Escape-avoidance subscale contains eight items (e.g., “tried to make myself feel better by eating, drinking, smoking, using drugs or medication and so forth”). Items are rated on a 4-point Likert-type scale that ranges from 0 (not used), to 3 (used a great deal). Scores range from 0 to 18 for the Problem Solving scale and 0 to 24 for the Escape scale. The higher the score, the more an individual applied the strategies during a nominated stressful situation. These subscales have been found to have Cronbach’s alpha values of .68 and .72, respectively (Folkman et al., 1986). The Cronbach’s alpha for the current study was .81 for Problem Solving and .78 for Escape-avoidance, which suggests good internal consistency reliability. The factorial validity of the WOCS-R has been documented in previous research (Aldwin & Revenson, 1987; Folkman et al., 1986).

4.3.5 General Self Efficacy Scale (GSES, Schwarzer & Gerulase, 1995). The GSES was described in Study 1. Items of this scale measure an individual’s belief in their own ability to cope with stressful situations. This measure had a Cronbach’s alpha of .92 in the present study, indicative of good internal consistency reliability.

4.3.6 Stress Appraisal Measure (SAM, Peacock & Wong, 1990). The SAM consists of 28 items that assess primary and secondary appraisals of a situation and the perceived stress related to the situation. The aspects of primary appraisal are perceptions regarding the centrality or importance of the event for ones wellbeing, how threatening the situation is (i.e. the potential for harm or loss), and how challenging the stressful event is or whether there was gain or growth obtained from the event (Peacock & Wong, 1990). The features of secondary appraisal refer to
whether the situation was perceived as controllable by self, uncontrollable by anyone and controllable by others (Peacock & Wong, 1990). The remaining subscale contains items that examine the perceived stressfulness of the situation. The instructions for completing the scale were originally designed to assess a specified stressful event that was yet to occur. For the purposes of the current study the instructions were adapted to assess a stressful event that had already occurred. Alteration to the tense of the scale was approved via personal email communication with one of the developers of the SAM, Dr Paul Wong. Examples of items from the subscales are as follows: threat “was the outcome of the situation negative”; challenge “how eager was I to tackle this problem”; centrality “did this situation have serious implications for me?”; control self “was I able to overcome the problem?”; control others “was there anyone who could help me to manage this problem?”; uncontrollable “was this a totally hopeless situation?”; and perceived stressfulness “did this situation tax or exceed my coping resources?” Items are rated on a 5-point Likert-type scale that ranges from 1 (not at all) to 5 (extremely). There are four items per scale. Subscale scores are obtained by calculating the mean of responses to each item. Previous research has found that the Cronbach’s alphas for these subscales have ranged from .55 to .92 (Honey, Morgan, & Bennett, 2003). It has been suggested that alphas under .70, although not desirable, may be acceptable for some psychological constructs (Kline, 2005). The alphas for the current study were .75 for threat, .65 for challenge, .85 for centrality, .85 for control self, .88 control others, .75 for uncontrollable, .83 for stressfulness, which overall suggest adequate to good internal consistency. The proposed factor structure of the SAM has been replicated by the scale developers (Peacock & Wong, 1990), however in other research centrality and threat have been found to load onto the same factor (Durak & Senol-Durak, 2013).
4.3.7 Depression Anxiety Stress Scale (DASS, Lovibond & Lovibond, 1995). The 21-item version of the DASS is designed to assess the extent to which the unpleasant states of depression, anxiety and stress have occurred over the past week. The 7-item depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. The 7-item anxiety scale examines autonomic arousal, skeletal muscle effects, situational anxiety and subjective experience of anxious affect. The 7-item stress scale examines non-specific arousal such as difficulty relaxing, nervous arousal, being easily upset/agitated, irritable/over reactive and impatient. All items are rated on a 4-point Likert-type scale that ranges from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Relevant items are summed to obtain a total score for the three scales. Scores therefore range from 0 to 21 for each of the subscales. The DASS is a dimensional measure of symptoms, not a categorical or diagnostic tool. There are however, recommended cut-off scores for symptom severity levels. To obtain said cut-off values, scores on the DASS 21 are multiplied by two, as cut-off values were developed for the larger 42-item version of the DASS. Scores above 21 for depression, 15 for anxiety and 26 for stress indicate severe symptoms. Scores above 28 for depression, 20 for anxiety and 34 for stress indicate extremely severe symptoms. Cronbach’s alpha coefficients have been found to range from .88 for depression, .82 for anxiety and .90 for stress (Henry & Crawford, 2005). For the current study the Cronbach’s alphas were .92 for depression, .87 for anxiety, .88 for stress, which suggests good internal consistency. The original three-factor structure has been replicated in subsequent studies by Antony et al. (1998), and also Sinclair et al. (2012).
4.3.8 Mindful Attention Awareness Scale (MAAS, Brown & Ryan, 2003).

This 15-item scale is used to assess an individual’s tendency to be mindful (Brown & Ryan, 2003). The items of this self-report questionnaire examine the presence or absence of attention and awareness of present moment experiences (e.g., “I could be experiencing some emotion and not be conscious of it until some time later”). Respondents rate how frequently they have experienced the statements on a 6-point Likert-type scale that ranges from 1 (almost always) to 6 (almost never). Scores range from 15 to 90, whereby high scores indicate a higher level of dispositional mindfulness. The MAAS has been found to have good internal consistency ranging from .82 to .87 among student and adult samples (Brown & Ryan, 2003). The Cronbach’s alpha for the current study was .90, suggestive of good internal consistency. The single factor structure of the MAAS has been confirmed in other research (MacKillop & Anderson, 2007).

4.3.9 Social Desirability Scale (SDS, Strahan & Gerbasi, 1972). The SDS was described in detail in Study 1. Items of this scale reflect whether an individual answers questions in a way that is truthful or socially desirable (Pett et al., 2003). The SDS had an alpha of .61 in the current study, which was below the desired .70 value. According to Field (2009), this may suggest scale unreliability.

4.4 Procedure

Authorisation to complete the current research was sought from the Human Research Ethics Committee (Appendix F contains a copy of the ethics approval form). The sample was recruited in an identical manner as Study 1. Participants completed the questionnaire battery online at the host website (http://www.psychdata.com). To
ensure informed consent the questionnaires were preceded by an information letter (see Appendix P). The information letter stated that participants were free to withdraw at any time, however if they wished to proceed the questions would take approximately 20 to 30 minutes to complete. The questionnaires were presented in the following order: Demographic questionnaire, CCQ, SAM, CSI, WOCS-R, GSES, DASS, MAAS and SDS. Unlike Study 1, all participants completed the core item pool of the CCQ regardless of whether they increased consumption or not during their nominated stressful situation. This was to avoid the error that occurred in Study 1 whereby some individuals incorrectly omitted the core item pool. The completed questionnaires were saved on a secure and password protected website (http://www.psychdata.com). The confidentiality and anonymity of respondents was ensured, as no names or personal details other than those collected in the demographic questionnaire were collected.

**Results**

These data were analysed using the Statistical Package for Social Sciences (SPSS), version 20. The results of the statistical analyses conducted are outlined in five general sections. The first section details the process involved in data inspection. In the second section, results of the CFA are detailed. The third section reports reliability analyses. The fourth section summarises validity analyses of the CCQ. The fifth section details exploratory analyses of the CCQ, which incorporated examination of the CCQ with age and sex, number and type of substances consumed, appraisals, and measures of depression, anxiety, stress symptoms and mindfulness. Exploration of differences between the CCQ and Non-CCQ groups (on measures included in the
questionnaire battery) are also presented. An alpha level of .05 was used for all statistical tests, unless otherwise specified.

4.5 Data Inspection

Given the parameters of the online data collection all scores were in range. There were no missing data as the online data collection procedure was conditional whereby individuals could not progress to subsequent scales unless all items were answered. Items from questionnaires in the test battery that required re-coding were modified accordingly (as described in materials section) prior to any analyses.

Item scores on all of the measures included in the battery were transformed into standardised z-scores in order to assess whether there were any univariate outliers (Field, 2009; Tabachnick & Fidell, 2007). This was undertaken independently for the CCQ group and also for the Non-CCQ group. The criteria by which to assess the standardised scores for the current study was set to a z-score of 4. All scores for the current data fell within this threshold except for scores of two participants on the WOCS-R item “tried to make myself feel better by eating drinking smoking using drugs or medication and so forth.” These outliers were found in the Non-CCQ group. These respondents answered differently to other members of this group and endorsed the use of this coping strategy, which was incongruent with their initial responses on the CCQ, where both indicated that they did not increase consumption of any substances to cope. These two participants were therefore excluded. Deletion is acceptable due to the large sample size, as removal of these cases would not be likely to affect the generalisability of the results (Tabachnick & Fidell, 2007).
Multivariate outliers were also examined for each case across the two groups via Mahalanobis distance. There were no multivariate outliers for the Non-CCQ group ($df = 17$, cut-off = 40.790, $p < .001$). For the CCQ group there were five outliers ($df = 18$, cut-off = 42.312, $p < .001$). The outlying cases had different constellations of values that were well below and/or above the average. One case had a combination of scores above the average on the CCQ total score, Avoidance subscale of the CSI, and also on the Planful Problem Solving subscale of the WOCS-R. Another displayed above average combination scores on Social Desirability, Mindfulness, and below average on Planful Problem Solving. Of the other three cases, one scored above average on all the measured variables and the other two were below average on all variables. Due to the chance that these outlying cases may unduly influence the results, these multivariate outliers were excluded from further analyses as recommended by Tabachnick and Fidell (2007).

After the process of data inspection outlined above, a total of seven cases were excluded. Five were removed from the CCQ group which subsequently consisted of 457 participants. Two were removed from the Non-CCQ group which resulted in a group of 144 participants.

In addition, visual inspection of histograms and box plots were also carried out, as were inspection of skewness and kurtosis values. All of which suggested approximated normal distribution. To further examine these data, scale means and standard deviations were examined for the questionnaires included in the battery, and are presented in Table 4.2 for the total sample, and for the CCQ and Non-CCQ groups.
Table 4.2

Means and Standard Deviations for the Scales Included in the Battery

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>Range</th>
<th>Total sample</th>
<th>CCQ</th>
<th>Non-CCQ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>CSI</td>
<td>Problem Solving</td>
<td>11 – 33</td>
<td>23.53</td>
<td>5.71</td>
<td>23.59</td>
</tr>
<tr>
<td></td>
<td>Avoidance</td>
<td>11 – 33</td>
<td>20.13</td>
<td>5.06</td>
<td>20.91</td>
</tr>
<tr>
<td></td>
<td>Social Support</td>
<td>11 – 33</td>
<td>20.83</td>
<td>6.51</td>
<td>21.11</td>
</tr>
<tr>
<td>W-R</td>
<td>Problem Solving</td>
<td>0 – 18</td>
<td>8.27</td>
<td>4.14</td>
<td>8.33</td>
</tr>
<tr>
<td></td>
<td>Escape-avoidance</td>
<td>0 – 24</td>
<td>8.82</td>
<td>5.28</td>
<td>9.78</td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>10 – 40</td>
<td>28.57</td>
<td>5.91</td>
<td>28.38</td>
</tr>
<tr>
<td>SAM</td>
<td>Centrality</td>
<td>1 – 4</td>
<td>3.66</td>
<td>1.06</td>
<td>3.74</td>
</tr>
<tr>
<td></td>
<td>Threatening</td>
<td>1 – 4</td>
<td>3.07</td>
<td>1.00</td>
<td>3.15</td>
</tr>
<tr>
<td></td>
<td>Challenging</td>
<td>1 – 4</td>
<td>2.62</td>
<td>0.92</td>
<td>2.60</td>
</tr>
<tr>
<td></td>
<td>Control Self</td>
<td>1 – 4</td>
<td>3.25</td>
<td>0.99</td>
<td>3.23</td>
</tr>
<tr>
<td></td>
<td>Uncontrollable</td>
<td>1 – 4</td>
<td>2.35</td>
<td>1.00</td>
<td>2.37</td>
</tr>
<tr>
<td></td>
<td>Control Other</td>
<td>1 – 4</td>
<td>2.97</td>
<td>1.05</td>
<td>2.99</td>
</tr>
<tr>
<td></td>
<td>Perceived Stress</td>
<td>1 – 4</td>
<td>3.76</td>
<td>0.85</td>
<td>3.86</td>
</tr>
<tr>
<td>DASS</td>
<td>Depression</td>
<td>0 – 21</td>
<td>14.57</td>
<td>5.81</td>
<td>15.26</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>0 – 21</td>
<td>12.83</td>
<td>5.16</td>
<td>13.38</td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>0 – 21</td>
<td>15.95</td>
<td>5.15</td>
<td>16.64</td>
</tr>
<tr>
<td>MAAS</td>
<td></td>
<td>15 – 90</td>
<td>54.29</td>
<td>14.22</td>
<td>53.01</td>
</tr>
<tr>
<td>SDS</td>
<td></td>
<td>0 – 10</td>
<td>4.88</td>
<td>2.14</td>
<td>4.71</td>
</tr>
</tbody>
</table>

Note. CSI = Coping Strategy Indicator; W-R = Ways of Coping Scale-Revised; GSES = General Self Efficacy Scale; SAM = Stress Appraisal Measure; DASS = Depression Anxiety Stress Scale; MAAS = Mindful Awareness and Attention Scale; SDS = Social Desirability Scale.

Total N = 601, CCQ n = 457, Non-CCQ n = 144.

The average score for most of the scales was near the middle of the possible range. However, for the Non-CCQ group avoidance and escape coping scores appeared to have a lower mean than the CCQ group. Some of the stress appraisal
means were higher than the middle of the range, perhaps reflecting the fact that responses were in relation to a stressor that already occurred, as opposed to anticipatory stress for which the scale was primarily developed. The average score of the CCQ and Non-CCQ groups was in either the severe or extremely severe range regarding their experience of depression, anxiety and stress symptoms. Lastly, on average, respondents did not answer in a highly socially desirable manner.

The number and type of substances consumed by participants was examined. Responses to the section of the CCQ that assessed the number of substances that were consumed more than usual during a stressful event are presented in Table 4.3.

Table 4.3

<table>
<thead>
<tr>
<th>Number of substances</th>
<th>Frequency</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>144</td>
<td>24.0</td>
</tr>
<tr>
<td>1</td>
<td>181</td>
<td>30.1</td>
</tr>
<tr>
<td>2</td>
<td>154</td>
<td>25.6</td>
</tr>
<tr>
<td>3</td>
<td>93</td>
<td>15.5</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>3.7</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Note. N = 601.

Results indicated that 76% of participants increased consumption of between one and five substances. Only a very small proportion of respondents increased consumption of all five substances. The substance most frequently consumed by participants was food (42.6%), followed by caffeine (36.4%), alcohol (30.8%), and cigarettes (22%). The “other drugs” category was endorsed the least (16.5%).
Upon further inspection of patterns of consumption, of the individuals who increased consumption of at least one substance, findings revealed that 40% of these individuals reported that they also decreased consumption of at least one substance. In addition, 57% of individuals who increased consumption for at least one substance also indicated that consumption stayed the same for at least one other substance. Of the 144 people who indicated they did not increase consumption of any substance during the stressful event, 31.9%, 14.6%, and 7.7% reported that they decreased consumption of one, two, or between three and five substance categories respectively. For almost half of these participants (46%) intake of all substances stayed the same as usual and/or were never consumed. The manner that these Non-CCQ group members responded to the core item pool of the CCQ was also examined. Only 28% of Non-CCQ individuals reported that all of the CCQ functions were not true of themselves. The remaining participants rated at least one item to be true of themselves to some degree. Possible implications of this type of responding are discussed later.

4.6 Confirmatory Factor Analysis

4.6.1 The model. The statistical program Analysis of Moment Structures version 20 (AMOS, Arbuckle, 2006) was used to conduct the CFA in the current study. Only individuals who indicated that they consumed substances to cope (n = 457) were included in the CFA. CFA was used to confirm the model that resulted from the EFA study and/or to explore a better fitting model if required. Specifically, a CFA was undertaken to examine the hypothesised relationship between consuming to cope, the functions that underlie it, and the items developed to assess each of these functions. This involved the testing of a measurement model, which specifies how the
latent and measured variables correspond (Hair et al., 2010). The measurement model is used to assess the pattern of loadings between items and factors and examine the extent of measurement error with a specific data set (Byrne, 2010; Hair et al., 2010). A model, in the context of scale development is a visual representation of a theory, and the set of relationships between variables that attempt to measure a phenomenon (Hair et al., 2010).

4.6.2 Schematic specification of the model. Figure 4.1 displays a visual portrayal of the relationships between variables in the current analysis. A circle or ellipse denotes unobserved latent factors (error, residuals, CCQ factors), squares or rectangles represent observed variables (CCQ items), single headed arrows signify the impact of one variable on another, and double headed arrows symbolise covariances or correlations between variables (Byrne, 2010). As evident in Figure 4.1, the four factors of Time-out, Escape Psyche, Physical Relief, Improve Mood and their corresponding items, comprise the lower/first-order portion of the model (Appendix Q contains corresponding phrases to item numbers). Measurement error terms represent the proportion of the item that has not been explained by the corresponding factor. The general consuming to cope function represents the higher/second-order aspect of the model, and is comprised of the four first-order factors. This exceeds the minimum criterion of three, as suggested by Kline (2011).

Inclusion of a second-order structure means that the extent to which this factor accounts for the first-order factors can be tested (Byrne, 2010). The correlations between the four CCQ factors are displayed in Table 4.4. As evident from the table the proposition of a second-order factor is supported by the correlations between the first order factors. Although two of these correlations were small, a second-order factor remained appropriate as the model has sufficient theoretical justification to
support an overarching higher-order construct that represents a general emotion-focused/avoidant function of consumptive coping.

Figure 4.1. Hypothesised four-factor, second-order CFA model of the CCQ.

Note. 1 = fixed parameter. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consuming to Cope General; CCQ1 to CCQ20 = CCQ items; Res1 to Res 4 = Residual error of latent variables; e = measurement error. 

n = 457.
Table 4.4

Correlations between the First-Order CCQ Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>T</th>
<th>E</th>
<th>P</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-out (T)</td>
<td>1.00</td>
<td>.26**</td>
<td>.20**</td>
<td>.47**</td>
</tr>
<tr>
<td>Escape-Psyche (E)</td>
<td>1.00</td>
<td>.48**</td>
<td>.59**</td>
<td></td>
</tr>
<tr>
<td>Physical Relief (P)</td>
<td></td>
<td>.37**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve Mood (I)</td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $r$ = Pearson’s correlation coefficient.

$n = 457$.

** = < .01 (two tailed).

In summation, the CFA model to be tested proposes that responses to the CCQ are explained by the four first-order factors (Time-out, Escape Psyche, Physical Relief, and Improve Mood), and one second-order factor of a general emotion-focused/avoidance function of consumptive coping. The model also proposes that each item of the CCQ loads on the factor it was designed to measure, and does not load on the other first-order factors. In addition, covariation among the four first-order factors is fully explained by their regression on the second-order factor. Lastly, the model assumes that the error terms associated with the items are uncorrelated.

4.6.3 Latent factor scaling and model identification. To adhere to requirements of latent factor scaling, loadings of latent variables were constrained appropriately (see Figure 4.1). Accordingly, one loading on each first-order latent variable was constrained to 1, as was the variance of the second order factor so it was not freely estimated.

The current model was found to be over-identified, as the number of estimable parameters (44) was less than the number of data points (210), and produced positive degrees of freedom ($df = 166$). A model is said to be identified and therefore testable,
when the variance-covariance matrix of the observed variables is consistent with the structural parameters of the hypothesised model, or if there is a unique set of parameters consistent with the data (Byrne, 2010; Hair et al., 2010). Therein, a model is “identified” when sufficient constraints are imposed that result in one set of parameter estimates being produced by the analysis (Thompson, 2004). When using CFA an over-identified model (i.e. a model that has more unique covariance and variance terms than parameters to be estimated, and has positive degrees of freedom), is desired (Hair et al., 2010).

4.6.4 Model estimation. For the current CFA model, Maximum Likelihood Estimation (MLE) was used, and the variance-covariance input matrix was selected, as opposed to the correlation matrix. MLE was considered appropriate as there was a large sample size, multivariate normality was satisfied, and the scale of the observed values were continuous (Byrne, 2010). Scales with five response categories can be considered continuous if sample size is reasonably large and data approximately normal (Cohen, Cohen, West, & Aiken, 2003).

4.6.5 Goodness of fit criterion. Criteria for goodness of fit indices were specified a priori, as recommended (Byrne, 2010; Ho, 2006; Hu & Bentler, 1999; Kline, 2011; Tabachnick & Fidell, 2007). The Chi-square statistic (which decreases as model fit improves) yielded a statistically significant result, \( \chi^2 (166, N = 457) = 708.03, \ p < .001 \). A significant result and large value is not desirable. However, this statistic increases with sample size, therefore a model can fail to fit the data upon inspection of this statistic in large samples (Ho, 2006). Alternate fit statistics were examined to determine the overall fit of the current model. The values associated with these indices for the current study are displayed in Table 4.5.
Table 4.5

*Goodness of Fit Statistics for the Hypothesised Model*

<table>
<thead>
<tr>
<th>Goodness-of-fit index</th>
<th>Goodness of fit-value</th>
<th>Model fit description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLI</td>
<td>.90</td>
<td>Adequate</td>
</tr>
<tr>
<td>CFI</td>
<td>.91</td>
<td>Adequate</td>
</tr>
<tr>
<td>GFI</td>
<td>.87</td>
<td>Tolerable</td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>.08 (.08 - .09)</td>
<td>Adequate to mediocre</td>
</tr>
</tbody>
</table>

*Note.* TLI = Tucker Lewis Index; CFI = Comparative Fit Index; GFI = Goodness-of-Fit Index; RMSEA = Root Mean Square Error of Approximation.

Table 4.5 reveals inconsistent fit results, which suggests that there may be some problems with model fit. Firstly, the TLI value was .90. Generally values over .90 are considered acceptable, those approaching .95 indicate a good fitting model, and those over .95, excellent (Hu & Bentler, 1999). The CFI was .91, which indicates acceptable fit of data to model (as this value exceeds .90), although a CFI greater than .95 indicates a well fitting model (Hu & Bentler, 1999). The GFI was just under .90, and while no threshold values have been established for the GFI (Ho, 2006), values above .90 are typically considered to represent adequate fit (Hair et al., 2010). In contrast to the GFI, the RMSEA value was on the cusp of that required for adequate fit, as values between .05 and .08 are indicative of an acceptable error of approximation in the population and adequate fit, whereas .08 to .10 represent mediocre fit, and greater than .10 suggest poor fit (Browne & Cudeck, 1993; Ho, 2006). In general, these fit indices are on the cusp of desirable and undesirable. Results such as these suggest it may be necessary to determine evidence or areas of model misspecification (Byrne, 2010).

The goodness of fit of the individual parameters was reviewed. Figure 4.2 displays the standardised model (see Appendix R for unstandardised path diagram).
Figure 4.2 Standardised parameter estimates and percentage of variance accounted for related to the hypothesised four-factor, second-order CFA model of the CCQ.

Note. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to cope; CCQ1 to CCQ20 = CCQ items; Res1 to 4 = Residual error of latent variables; e = measurement error. Value preceding brackets is the factor loading/parameter estimate and value in bracket is variance.

n = 457.
Although not above .7 as desired, loadings above .5 remain at least acceptable according to Hair et al. (2010). Typically, loadings above .71 are considered excellent, .63 very good, .55 good, .45 fair and .32, poor (Tabachnick & Fidell, 2007). As evident from Figure 4.2 parameter estimates for the first-order structure all loaded above .5 and in the desired direction. More specifically, excluding items 5 (to help relax my muscles) and 11 (to feel free), all other items displayed loadings that were above .72. For the second-order structure of the model, the loadings were primarily above .5 (excluding Physical Relief) and in the desired direction, ranging from fair to excellent. Those with the highest loadings, account for greater variance in their corresponding factor. In general, the individual parameters of this model were adequate based on recommended guidelines (Byrne, 2010; Hair et al., 2010), as there were no negative variances and standardised estimates were less than 1.

Table 4.6 presents further parameter evaluation, specifically the significance of the unstandardised estimates. The statistical significance was calculated by dividing the estimate by the standard error. The values of this statistic (also known as the Wald or t-statistic) were significant (including the two lower loading items) because they exceeded the critical ratio of 1.96 (Byrne, 2010). Although the parameters were found to be significant, as the overall fit indices reported earlier were borderline acceptable, the model was inspected further for areas of model misspecification.
Table 4.6

Feasibility Statistics of Freely Estimated Individual Parameters in the CFA Model of the CCQ.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unstandardised estimate</th>
<th>Standard error</th>
<th>Critical ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>&lt;--- C</td>
<td>.90</td>
<td>.07</td>
</tr>
<tr>
<td>P</td>
<td>&lt;--- C</td>
<td>.56</td>
<td>.07</td>
</tr>
<tr>
<td>I</td>
<td>&lt;--- C</td>
<td>.98</td>
<td>.07</td>
</tr>
<tr>
<td>T</td>
<td>&lt;--- C</td>
<td>.57</td>
<td>.06</td>
</tr>
<tr>
<td>CCQ14</td>
<td>&lt;--- T</td>
<td>.95</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ8</td>
<td>&lt;--- T</td>
<td>.97</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ4</td>
<td>&lt;--- T</td>
<td>.96</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ2</td>
<td>&lt;--- T</td>
<td>.85</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ12</td>
<td>&lt;--- E</td>
<td>1.00</td>
<td>.04</td>
</tr>
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<td>&lt;--- E</td>
<td>1.08</td>
<td>.04</td>
</tr>
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<td>&lt;--- E</td>
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<td>.05</td>
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<td>&lt;--- E</td>
<td>.86</td>
<td>.05</td>
</tr>
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<td>CCQ13</td>
<td>&lt;--- P</td>
<td>1.02</td>
<td>.04</td>
</tr>
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<td>CCQ10</td>
<td>&lt;--- P</td>
<td>1.06</td>
<td>.05</td>
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<td>CCQ5</td>
<td>&lt;--- P</td>
<td>.68</td>
<td>.05</td>
</tr>
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<td>CCQ3</td>
<td>&lt;--- P</td>
<td>.89</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ18</td>
<td>&lt;--- I</td>
<td>.90</td>
<td>.05</td>
</tr>
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<td>CCQ15</td>
<td>&lt;--- I</td>
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<td>.04</td>
</tr>
<tr>
<td>CCQ11</td>
<td>&lt;--- I</td>
<td>.61</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ7</td>
<td>&lt;--- I</td>
<td>.94</td>
<td>.05</td>
</tr>
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</table>

*Note.* T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to cope; CCQ1 to CCQ20 = CCQ items; CCQ 19, CCQ16, CCQ17, CCQ20 = 1.0 (fixed parameters). 

\(n = 457\). 

*** = \(p < .001\).
The standardised residuals are presented in Table 4.7. These values represent the raw residuals divided by the standard error of the residual (Brown, 2006). While it is acknowledged that values between 2.58 and 4.0 may warrant attention, they may not suggest changes to the model if no other problems are associated with the items. However, residuals over 4.0 suggest a potentially unacceptable degree of error, as large standardised residuals denote items that were either over or under predicted by the model (Brown, 2006). For the current study, eight values were found to exceed 4.0 and are highlighted in Table 4.7. The current results suggest that items 3, 11, 1, 12, 16, 9, and 8 had between one and four residuals over 4 (ordered in most to least problematic). These high residuals may be attributed to sampling error, however they may also be explained by common/similar content in the items (Hair et al., 2010). Modification indices were also examined for the covariances between error terms of items from the same factor, and were found to be consistent with observations based on the standardised residuals. These indices, in conjunction with the marginal model fit, place these items as candidates for deletion.
Table 4.7

<table>
<thead>
<tr>
<th>Item</th>
<th>Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCQ7</td>
<td>0.00</td>
</tr>
<tr>
<td>CCQ11</td>
<td>0.12</td>
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<tr>
<td>CCQ15</td>
<td>0.33</td>
</tr>
<tr>
<td>CCQ18</td>
<td>-0.63</td>
</tr>
<tr>
<td>CCQ20</td>
<td>0.10</td>
</tr>
<tr>
<td>CCQ3</td>
<td>2.32</td>
</tr>
<tr>
<td>CCQ5</td>
<td>1.36</td>
</tr>
<tr>
<td>CCQ10</td>
<td>0.07</td>
</tr>
<tr>
<td>CCQ13</td>
<td>-1.10</td>
</tr>
<tr>
<td>CCQ17</td>
<td>-0.82</td>
</tr>
<tr>
<td>CCQ1</td>
<td>-0.62</td>
</tr>
<tr>
<td>CCQ6</td>
<td>0.81</td>
</tr>
<tr>
<td>CCQ9</td>
<td>-1.03</td>
</tr>
<tr>
<td>CCQ14</td>
<td>-1.31</td>
</tr>
<tr>
<td>CCQ19</td>
<td>-0.35</td>
</tr>
</tbody>
</table>

Note: Highlighted values indicate large standardised residuals (> 4).
4.6.6 Respecification of the hypothesised model. The model was modified via an iterative process. This involved removal of individual items systematically beginning with most problematic according to the number of large standardised residuals, and in consideration of theoretical and practical implications (item content, inclusive of wording/redundancy/salience) (Byrne, 2010; Hair et al., 2010). After an item was removed, the CFA was re-run to determine whether the modification resulted in improved fit, and a model that remained consistent with theory.

Firstly, item 3 “to ease unpleasant physical sensations” had four residuals over 4 and the prospect of deletion was not considered to be detrimental to the theoretical structure of the CCQ. This was due to this item being similar in content to other items from the Physical Relief subscale. It was therefore deleted, and the model was reevaluated. Examination of the altered model revealed that item 11 “to feel free” from the Improve Mood subscale was most problematic. This item displayed three standardised residuals that exceeded 4. In addition, it was the lowest loading item on this factor, a finding which is consistent with how this item performed in the previous EFA study. After removal of item 11 the CFA was again re-run and the model was reexamined. This revealed three standardised residual values that remained over 4, two of which related to item 5 “to help relax my muscles” which was subsequently deleted. This item loaded the lowest and under .70 on the Physical Relief factor (consistent with results from the EFA). Item 5 was deleted and the model was reevaluated. Item 1 “to disconnect from my emotions” from the Escape Psyche scale was removed next, and after reevaluation item 19 “to take some time out to get back on track” was deleted. This final item was removed from the Time-out scale for reasons of parsimony and practicality, as this item had content similar to other items in the scale, and could be removed to parallel the number of items in other scales.
(each had at least one item removed). Removal of this item was not considered to constitute a departure from theory.

Alternative variations of this model were also considered due to the low loadings associated with the second-order portion of the model. However, examination of a two-factor second-order structure did not improve the model, nor did deletion of the poorest performing factor Physical Relief. Regardless, altering the model in such a manner would be purely statistically driven, rather than theoretically informed, so was not considered appropriate.

The final model of the CCQ that resulted from the current analyses is presented schematically in Figure 4.3. Examination of model identification established that the revised final model was over-identified as desired. The number of estimable parameters (34) was less than the number of data points (120) and produced positive degrees of freedom ($df = 86$). The requirements of latent factor scaling were satisfied, and Maximum Likelihood Estimation with the variance covariance input matrix was used.
Figure 4.3 Revised four-factor, second-order CFA model of the CCQ.

Note. 1 = fixed parameter. T = Timeout, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consuming to Cope General; CCQ1 to CCQ20 = CCQ items; Res1 to Res4 = Residual error of latent variables; e = measurement error. n = 457.
4.6.7 Evaluation of the revised model. Evaluation of the chi-square statistic revealed a lower value than the first model evaluated. This suggests that the respecification of the model lead to an improved model fit. However, this statistic remained statistically significant, \( \chi^2 (86, N = 457) = 278.03, p < .001 \), as often typical of large samples. Table 4.8 presents the additional fit indices of the revised model, which suggest an improvement in model fit. These values indicate that goodness of fit is at least adequate. This could suggest that the relationships among the variables in the proposed model are plausible (Byrne, 2010).

Table 4.8

*Goodness of Fit Statistics for the Revised Model*

<table>
<thead>
<tr>
<th>Goodness-of-fit index</th>
<th>Goodness of fit-value</th>
<th>Model fit description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLI</td>
<td>.95</td>
<td>Good</td>
</tr>
<tr>
<td>CFI</td>
<td>.96</td>
<td>Excellent</td>
</tr>
<tr>
<td>GFI</td>
<td>.93</td>
<td>Adequate</td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>.07 (.06 to .08)</td>
<td>Adequate</td>
</tr>
</tbody>
</table>

*Note.* TLI = Tucker Lewis Index; CFI = Comparative Fit Index; GFI = Goodness-of-Fit Index; RMSEA = Root Mean Square Error of Approximation.

Examination of the individual parameters was also undertaken and considered satisfactory. Figure 4.4 contains the revised second-order four-factor CFA model of the CCQ produced by AMOS. It contains the factor loadings for each parameter, and the variance accounted for by each parameter (see Appendix S for unstandardised estimates/path diagram). In the standardised model, parameters are all below 1 as desired, variance explained by the items in the first-order factors exceed 50%, however in the second order model, Time-out and Physical Relief explain less than 50% of the variance in the second-order factor.
Figure 4.4 Standardised parameter estimates and percentage of variance accounted for related to the revised four-factor, second-order CFA model of the CCQ.

Note. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to Cope; CCQ1 to CCQ20 = CCQ items; Res1 to Res 4 = Residual error of latent variables; e = measurement error. Value preceding brackets is the factor loading/parameter estimate and value in bracket is variance. $n = 457$. 
It was necessary to further explore the revised model. Table 4.9 displays the significance of the unstandardised parameters and Table 4.10 presents the standardised residuals of the revised model.

Table 4.9

Feasibility Statistics of Freely Estimated Individual Parameters in the Revised CFA Model of the CCQ

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unstandardised estimate</th>
<th>Standard error</th>
<th>Critical ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>&lt;--- C</td>
<td>.92</td>
<td>.08</td>
</tr>
<tr>
<td>P</td>
<td>&lt;--- C</td>
<td>.50</td>
<td>.07</td>
</tr>
<tr>
<td>I</td>
<td>&lt;--- C</td>
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<tr>
<td>T</td>
<td>&lt;--- C</td>
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<td>.06</td>
</tr>
<tr>
<td>CCQ4</td>
<td>&lt;--- T</td>
<td>1.09</td>
<td>.06</td>
</tr>
<tr>
<td>CCQ2</td>
<td>&lt;--- T</td>
<td>.99</td>
<td>.06</td>
</tr>
<tr>
<td>CCQ12</td>
<td>&lt;--- E</td>
<td>.99</td>
<td>.04</td>
</tr>
<tr>
<td>CCQ9</td>
<td>&lt;--- E</td>
<td>1.06</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ6</td>
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<td>.05</td>
</tr>
<tr>
<td>CCQ13</td>
<td>&lt;--- P</td>
<td>1.04</td>
<td>.04</td>
</tr>
<tr>
<td>CCQ10</td>
<td>&lt;--- P</td>
<td>1.01</td>
<td>.05</td>
</tr>
<tr>
<td>CCQ18</td>
<td>&lt;--- I</td>
<td>.89</td>
<td>.05</td>
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<tr>
<td>CCQ15</td>
<td>&lt;--- I</td>
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<td>.04</td>
</tr>
<tr>
<td>CCQ7</td>
<td>&lt;--- I</td>
<td>.93</td>
<td>.05</td>
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</table>

Note. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to cope; CCQ1 to CCQ20 = CCQ items; CCQ 14, CCQ16, CCQ17, CCQ20 = 1.0 (fixed parameters).

n = 457.

*** = p < .001 (two tailed).
Table 4.10
Standardised Residuals of the Revised Four-Factor, Second-Order CFA Model of the CCQ

<table>
<thead>
<tr>
<th>Item</th>
<th>CCQ7</th>
<th>CCQ15</th>
<th>CCQ18</th>
<th>CCQ20</th>
<th>CCQ10</th>
<th>CCQ13</th>
<th>CCQ17</th>
<th>CCQ6</th>
<th>CCQ9</th>
<th>CCQ12</th>
<th>CCQ16</th>
<th>CCQ2</th>
<th>CCQ4</th>
<th>CCQ8</th>
<th>CCQ14</th>
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<td></td>
</tr>
</tbody>
</table>

Note: Highlighted values exceed 2.58.
Unstandardised parameters were significant, as evident in Table 4.9. There were no standardised residuals that exceeded 4, as shown in Table 4.10. Although there were eight standardised residuals over 2.58, where significance levels are set at .001, such standardised residuals can be expected in large samples (Hair et al., 2010). Further manipulation of any parameters was avoided so not to over-fit the model, and also because the current parameters make practical and theoretical sense. As the fit of the revised model was acceptable, and parameters largely appropriate, this model supports the plausibility of the proposed relationships among the items and factors of the CCQ.

4.7 Reliability Analysis

Reliability analysis was conducted on the 15-item version of the CCQ. Overall, the CCQ demonstrated very good internal consistency with a Cronbach’s alpha coefficient of .89. The alphas for the individual scales were .86 for Time-out, .90 for Escape Psyche, .90 for Physical Relief, and .89 for Improve Mood.

Table 4.11 displays the correlation matrix for the CCQ items, statistics relevant to reliability of the CCQ, and the mean and variance for each item. These results show that all items correlate significantly with other items within their respective factor. This, combined with the item to factor correlations (correlations between each item and subscale score), demonstrates that each item appropriately represents and measures part of the same factor. The item means were found to be close to the center of the range (one to five) as desired, and variances were adequate, according to recommendations by Field (2009). This suggests that items discriminate between individuals.
### Pearson’s Correlation Coefficients, Corrected Item Factor Correlations, Item Means, Item Variances and Alpha Reliabilities if Item Removed

<table>
<thead>
<tr>
<th>Item</th>
<th>Time</th>
<th>Item Factor</th>
<th>Item Mean</th>
<th>Item Variance</th>
<th>Alpha Reliability</th>
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<td>1</td>
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<td>1</td>
<td>3.42</td>
<td>1.57</td>
<td>0.83</td>
</tr>
<tr>
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<td>3.29</td>
<td>1.69</td>
<td>0.81</td>
</tr>
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<td>1.73</td>
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<td>3.31</td>
<td>1.54</td>
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<td>2.42</td>
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<td>12</td>
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<td>14</td>
<td>1</td>
<td>1</td>
<td>3.29</td>
<td>2.04</td>
<td>0.83</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>1</td>
<td>3.33</td>
<td>2.04</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Note: Pearson’s correlation coefficient is calculated. Cronbach’s alpha is calculated about the situation.

$r$ = Pearson's correlation coefficient

$\alpha$ = Cronbach's alpha

$n$ = 457

* = $p < 0.05$ (two tailed)

** = $p < 0.01$ (two tailed)
Table 4.11 also shows that the alpha value if items were removed remained adequate and did not exceed the overall alpha for their respective factor. This suggests that removal of any items would not enhance alpha.

Table 4.12 displays the correlations between the revised factors, the average inter-item correlation for each factor and the mean score for each factor of the CCQ. Correlations between the factors were significant and ranged from small to large. Most notably, Time-out and Physical Relief shared the weakest relationship among the factors. The mean inter item correlations for each factor were satisfactory, as would be expected from the high alphas reported earlier. Average factor scores were near the middle of the possible range for Time-out, Escape Psyche and Improve Mood, however were lower for Physical Relief.

Table 4.12

<table>
<thead>
<tr>
<th>Factor</th>
<th>Time-out</th>
<th>Escape Psyche</th>
<th>Physical Relief</th>
<th>Improve Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-out</td>
<td>1.00</td>
<td>.29**</td>
<td>.10*</td>
<td>.45**</td>
</tr>
<tr>
<td>Escape Psyche</td>
<td>1.00</td>
<td>.40**</td>
<td>.28**</td>
<td>.55**</td>
</tr>
<tr>
<td>Physical Relief</td>
<td>1.00</td>
<td></td>
<td>.28**</td>
<td></td>
</tr>
<tr>
<td>Improve Mood</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

*M Inter-item r*  
Factor score *M*  
Factor score *SD*

*Note. M = Mean; r = Pearson’s correlation; SD = Standard Deviation.

*n = 457.

** = *p < .01.*
4.8 Validity Testing

Whilst the results of the CFA and reliability statistics lend some support to the validity of the items and factors within the CCQ, the scale was also examined with selected measures for validity purposes. For convergent validity, the relationship between the CCQ and measures of avoidant coping, namely, the Avoidance and Escape-avoidance subscales of the CSI and the WOCS-R respectively, and also a measure of general self-efficacy, the GSES, were explored. Correlations between the CCQ and measures of Problem Solving coping (from the CSI and WOCS-R) and Seeking Social Support (from the CSI) were examined for divergent validity. Whether social desirability was associated with scores on the CCQ was also examined. Correlations between the CCQ and validity measures are presented in Table 4.13.

Table 4.13

*Pearson’s Correlation Coefficients between the CCQ and Validity Measures*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>CCQ Total</th>
<th>CCQ Time-out</th>
<th>CCQ Escape</th>
<th>CCQ Physical Relief</th>
<th>CCQ Improve Mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSI</td>
<td>Avoidance</td>
<td>.47**</td>
<td>.22**</td>
<td>.53**</td>
<td>.24**</td>
<td>.32**</td>
</tr>
<tr>
<td>CSI</td>
<td>Problem Solving</td>
<td>.01</td>
<td>.14**</td>
<td>-.13**</td>
<td>-.02</td>
<td>.07</td>
</tr>
<tr>
<td>CSI</td>
<td>Social Support</td>
<td>.02</td>
<td>.09</td>
<td>-.08</td>
<td>.01</td>
<td>.06</td>
</tr>
<tr>
<td>W-R</td>
<td>Escape-avoid</td>
<td>.55**</td>
<td>.22**</td>
<td>.59**</td>
<td>.33**</td>
<td>.38**</td>
</tr>
<tr>
<td>W-R</td>
<td>Problem Solving</td>
<td>.03</td>
<td>.18**</td>
<td>-.10*</td>
<td>-.04</td>
<td>.08</td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>-.09</td>
<td>.05</td>
<td>-.19**</td>
<td>-.12**</td>
<td>.02</td>
</tr>
<tr>
<td>SDS</td>
<td></td>
<td>-.09</td>
<td>-.07</td>
<td>-.07</td>
<td>-.01</td>
<td>-.09</td>
</tr>
</tbody>
</table>

*Note. CCQ = Consuming to Cope Questionnaire; CSI = Coping Strategy Indicator; W-R = Ways of Coping Scale Revised; GSES = General Self Efficacy; SDS = Social Desirability Scale. n = 457. * = p < .05. ** = p < .01.*
Correlations were generally consistent with what was expected regarding convergent validity. The avoidance subscales of the CSI and WOCS-R shared significant positive relationships with each of the factors of the CCQ and the CCQ overall. Most correlations were above .32, with the exception of Time-out and the relationship between Physical Relief and CSI Avoidance ($p < .01$). The CCQ subscales of Escape Psyche and Physical Relief shared significant weak negative relationships with the GSES. The remaining CCQ subscales did not display any significant associations with the GSES. There was support for divergent validity, as scores on the factors and total CCQ scale had weak to no relationship with measures of Problem Solving Coping and Seeking Social Support coping. These correlations were all below ± .20, only four of which were significant. Correlations between the CCQ and the SDS were weak, perhaps indicating that socially desirable responding is not associated with, and is therefore not a concern for, the validity of the 15-item CCQ.

4.9 Exploratory Examination of the CCQ

Exploratory analyses were conducted to enhance understanding of consumptive coping and the functions of this coping strategy as measured by the CCQ. These analyses examined whether CCQ scores differed based on the demographic characteristics of age and sex. Analyses were also undertaken to examine whether the number and type of substance consumed was associated with responses on the CCQ. The relationship between scores on the CCQ and appraisals, measures of depression, anxiety, stress symptoms, and mindfulness were also
explored. Examination of differences between the CCQ and Non-CCQ groups on measures included in the questionnaire battery was also undertaken.

4.9.1 The CCQ, age and sex. Correlations between age, the CCQ and its subscales were examined. No significant correlations were found between age and total CCQ score, \( r = -.03, n = 457, p = .52 \), Escape Psyche, \( r = -.05, n = 46, p = .34 \), and Improve Mood, \( r = -.07, n = 457, p = .15 \). A weak significant negative correlation was found between age and Time-out, \( r = -.09, n = 457, p < .05 \), and a weak positive correlation was found between age and Physical Relief, \( r = .15, n = 457, p < .01 \). To a small degree, younger participants were more likely to endorse Time-out, and less likely to endorse Physical Relief than older participants.

With regards to sex and CCQ scores, no difference was found across males (\( M = 44.67, SD = 12.42 \)) and females (\( M = 44.52, SD = 13.36 \)) on the CCQ total score, \( t (455) = .103, p = .92 \). This was also the case for each of the CCQ subscales, Time-out, \( t (455) = 1.35, p = .18 \), Escape Psyche, \( t (455) = -.32, p = .75 \), Physical Relief, \( t (203) = -1.14, p = .26 \), and Improve Mood, \( t (217) = .35, p = .73 \).

4.9.2 The CCQ and substances consumed. Analyses were conducted to examine whether the total CCQ score differed depending on a) the number of substances consumed, and b) the category of substance consumed.

Differences on the CCQ based on the number of substance/s consumed. With regards to the reported number of substances consumed more than usual during the stressful event, 39.6% of individuals consumed one substance, 33.7% consumed two, and 26.7% consumed more than two substances (20.4%, 4.8%, 1.5% of participants consumed three, four and five substances respectively). A one way between-groups Analysis of Variance (ANOVA) was conducted among these groups to examine differences on CCQ total scores. Levene’s test revealed that the
The homogeneity of variance assumption was violated \((p < .05)\), therefore Brown-Forsyth F correction was used. The ANOVA revealed that CCQ scores varied across the three groups \(F(2, 450) = 42.42, p < .001\). Post-hoc comparisons using the Games-Howell test indicated that the groups that consumed one, two, and three or more substances all differed significantly from one another. Specifically, participants who consumed three or more substances scored the highest on the CCQ \((M = 52.28, SD = 10.83)\), followed by those who consumed two substances \((M = 44.42, SD = 11.50)\), with those who consumed one substance scoring the lowest \((M = 39.48, SD = 13.38)\).

To investigate whether this trend was apparent for the CCQ subscales, one way between groups ANOVAs were conducted for each of the subscales. The assumption of homogeneity of variances was violated for each of these ANOVAs \((p < .05)\), therefore Brown-Forsyth F correction was used. As recommended by Pallant (2010), to control for Type I error the Bonferroni adjustment was applied, which resulted in an alpha level being set at .01. The results of the comparisons on CCQ subscale scores between individuals who consumed one, two, or from three to five substances are presented in Table 4.14. There was a significant difference on the CCQ subscales between groups of individuals who consumed one, two, or three or more substances. Post-hoc tests (Games-Howell) revealed that individuals who consumed three substances scored significantly higher on the CCQ subscale scores when compared to those who consumed one substance. Except for Physical Relief, the group of individuals who consumed two substances scored significantly higher than those who consumed only one substance on the remaining subscales.
Table 4.14

ANOVA Results for Comparisons on CCQ Subscale Scores by Number of Substances

<table>
<thead>
<tr>
<th>Number of substance/s consumed</th>
<th>1</th>
<th>2</th>
<th>3 – 5</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>F</td>
<td>df</td>
<td>p</td>
</tr>
<tr>
<td>Time-out</td>
<td>11.92 (4.40)</td>
<td>13.23 (4.32)</td>
<td>14.52 (3.64)</td>
<td>14.79</td>
<td>2, 449.31</td>
<td>.001**</td>
</tr>
<tr>
<td>Escape Psyche</td>
<td>10.11 (5.17)</td>
<td>11.99 (5.02)</td>
<td>14.88 (4.68)</td>
<td>33.92</td>
<td>2, 442.89</td>
<td>.001**</td>
</tr>
<tr>
<td>Physical Relief</td>
<td>6.14 (3.61)</td>
<td>6.27 (3.50)</td>
<td>8.67 (4.31)</td>
<td>18.54</td>
<td>2, 379.47</td>
<td>.001**</td>
</tr>
<tr>
<td>Improve Mood</td>
<td>11.31 (4.88)</td>
<td>12.93 (4.31)</td>
<td>14.21 (4.21)</td>
<td>15.94</td>
<td>2, 445.58</td>
<td>.001**</td>
</tr>
</tbody>
</table>

Note. n = 457.

** = p < .01.

Differences on the CCQ based on the type of substance consumed. Analyses were also conducted to assess whether the type of substance consumed was related to responses on the CCQ. The only way to explore this with the current data set was to compare individuals who consumed only one substance, by grouping them according to the particular substance they consumed. As mentioned earlier, there were 181 (40% of the CCQ group) of individuals who consumed only one substance to cope during the stressful situation. Of these individuals, 77 consumed food, 40 consumed caffeine, 20 consumed cigarettes, 30 consumed alcohol and 14 consumed other drugs. Differences in responses to the CCQ overall score were examined first. An ANOVA revealed a statistically significant difference at the p < .05 level in CCQ scores for the five types of substances: F (4, 176) = 4.3, p = .003. Post-hoc comparisons using the Tukey HSD test indicated that the mean CCQ score for the group that consumed
caffeine ($M = 32.25, SD = 12.52$) was significantly lower than the mean scores of the groups that consumed food ($M = 41.83, SD = 13.58$), and alcohol ($M = 42.50, SD = 11.36$). The food and alcohol groups did not differ significantly, and the groups that consumed cigarettes ($M = 40.90, SD = 13.03$), or other drugs ($M = 38.64, SD = 13.22$), did not differ significantly from any of the other groups.

ANOVAS were also conducted to explore differences across substances, the results of which are presented in Table 4.15. As recommended by Pallant (2010), the Bonferroni adjustment was applied, which resulted in an alpha level cut-off of .01.

Table 4.15

ANOVA Results for Comparisons on CCQ Subscale Scores by Type of Substance

<table>
<thead>
<tr>
<th>Type of substance consumed</th>
<th>Food $M$ (SD)</th>
<th>Caffeine $M$ (SD)</th>
<th>Cigarette $M$ (SD)</th>
<th>Alcohol $M$ (SD)</th>
<th>Drugs $M$ (SD)</th>
<th>$F$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>12.29 (4.26)</td>
<td>10.83 (4.45)</td>
<td>14.60 (3.66)</td>
<td>11.93 (3.86)</td>
<td>9.14 (5.11)</td>
<td>4.29</td>
<td>4, 176</td>
<td>.002**</td>
</tr>
<tr>
<td>EP</td>
<td>10.94 (5.05)</td>
<td>7.15 (4.11)</td>
<td>10.20 (5.12)</td>
<td>12.33 (4.90)</td>
<td>9.07 (5.94)</td>
<td>5.86</td>
<td>4, 176</td>
<td>.001**</td>
</tr>
<tr>
<td>PR</td>
<td>5.88 (3.32)</td>
<td>5.03 (2.69)</td>
<td>6.45 (3.63)</td>
<td>5.73 (3.19)</td>
<td>11.14 (4.50)</td>
<td>9.38</td>
<td>4, 176</td>
<td>.001**</td>
</tr>
<tr>
<td>IM</td>
<td>12.73 (4.76)</td>
<td>9.25 (4.40)</td>
<td>9.65 (4.18)</td>
<td>12.50 (4.56)</td>
<td>9.29 (5.57)</td>
<td>5.53</td>
<td>4, 176</td>
<td>.001**</td>
</tr>
</tbody>
</table>

Note. T = Time-out; EP = Escape Psyche; PR = Physical Relief; IM = Improve Mood. $n = 181$. ** = $p < .01$.

Results of the ANOVAs revealed that there were significant differences on the CCQ subscale scores between groups based on substances consumed. Post-hoc analyses using Tukey’s HSD were conducted to examine where the differences lay.
For Time-out, individuals who consumed cigarettes scored on average significantly higher than individuals who consumed caffeine or drugs. For Escape Psyche, individuals who consumed caffeine scored on average significantly lower than individuals who consumed food or alcohol. The mean score for Physical Relief was significantly higher among individuals who consumed drugs compared to all other substances. Lastly, for Improve Mood, the group of individuals who consumed caffeine scored significantly lower than individuals who consumed food.

4.9.3 The CCQ and stress appraisals. Pearson’s correlations were calculated for the CCQ total and subscale scores and stress appraisal scores, and are presented in Table 4.16. Significant correlations ranged from weak to moderate, and only Controllable by Others did not share any significant correlations with the CCQ. Higher scores on the total CCQ, Escape Psyche, and Physical Relief subscales tended to be associated with higher scores of perceived Stressfulness of the situation, and perceived Threat. Although small in magnitude, the CCQ shared a significant positive relationship with Centrality (perceived significance of the event to one’s wellbeing).

Table 4.16

Pearson’s Correlations between the CCQ and SAM Subscales

<table>
<thead>
<tr>
<th></th>
<th>CCQ</th>
<th>T</th>
<th>CH</th>
<th>CE</th>
<th>C SE</th>
<th>C OT</th>
<th>UN</th>
<th>ST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td>.33**</td>
<td>.02</td>
<td>.26**</td>
<td>-.13**</td>
<td>-.03</td>
<td>.19**</td>
<td>.34**</td>
</tr>
<tr>
<td>Time-out</td>
<td>.06</td>
<td></td>
<td>.13**</td>
<td>.13**</td>
<td>.09</td>
<td>-.02</td>
<td>.03</td>
<td>.13**</td>
</tr>
<tr>
<td>Escape Psyche</td>
<td>.40**</td>
<td>.13**</td>
<td>.28**</td>
<td>-.24**</td>
<td>-.05</td>
<td>.24**</td>
<td>.37**</td>
<td></td>
</tr>
<tr>
<td>Physical Relief</td>
<td>.34**</td>
<td>-.01</td>
<td>.18**</td>
<td>-.18**</td>
<td>-.03</td>
<td>.20**</td>
<td>.30**</td>
<td></td>
</tr>
<tr>
<td>Improve Mood</td>
<td>.14**</td>
<td>.08</td>
<td>.15**</td>
<td>-.01</td>
<td>.01</td>
<td>.05</td>
<td>.17**</td>
<td></td>
</tr>
</tbody>
</table>

Note. CCQ = Consuming to Cope Questionnaire, SAM = Stress Appraisal Measure, T = Threat, CH = Challenge, CE = Centrality, C SE = Controllable by self, C OT = Controllable by others, UN = Uncontrollable, ST = Stressfulness. 

\( n = 457 \).

\* = \( p < .05 \); \** = \( p < .01 \).
4.9.4 The CCQ, psychological distress symptoms, and mindfulness. Table 4.17 displays correlations between the CCQ total and subscale scores and measures of psychological distress and dispositional mindfulness for individuals who reported consumptive coping. The total CCQ, including each of its subscales, displayed significant positive relationships with depression, anxiety and stress symptoms as measured by the DASS. Correlations ranged from weak to moderate strength, with the total CCQ score, Escape Psyche and Physical Relief subscales displaying moderate positive relationships with each facet of the DASS. Time-out and Improve Mood shared significant weak positive relationships with the DASS. A significant negative relationship of moderate strength was found between the CCQ and mindfulness, whereby higher scores on the CCQ overall and Escape Psyche were associated with lower levels of mindfulness. This trend was evident to a lesser degree for Physical Relief and Improve Mood, but was not significant for Time-out. In general, participants who scored high on the CCQ tended to score higher on depression, anxiety and stress symptoms, and lower on dispositional mindfulness.

Table 4.17

*Pearson’s Correlations between the CCQ, DASS, and MAAS Scores*

<table>
<thead>
<tr>
<th></th>
<th>CCQ</th>
<th>D</th>
<th>A</th>
<th>S</th>
<th>MAAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>.39**</td>
<td>.36**</td>
<td>.38**</td>
<td>-34**</td>
<td></td>
</tr>
<tr>
<td>Time-out</td>
<td>.14**</td>
<td>.11*</td>
<td>.16**</td>
<td>-09</td>
<td></td>
</tr>
<tr>
<td>Escape Psyche</td>
<td>.43**</td>
<td>.38**</td>
<td>.36**</td>
<td>-30**</td>
<td></td>
</tr>
<tr>
<td>Physical Relief</td>
<td>.30**</td>
<td>.37**</td>
<td>.36**</td>
<td>-22**</td>
<td></td>
</tr>
<tr>
<td>Improve Mood</td>
<td>.22**</td>
<td>.16**</td>
<td>.20**</td>
<td>-13**</td>
<td></td>
</tr>
</tbody>
</table>

Note. CCQ = Consuming to Cope Questionnaire, DASS = Depression Anxiety Stress Scale, D = Depression symptoms, A = Anxiety symptoms, S = Stress symptoms, MAAS = Mindful Attention Awareness Scale. 

\( n = 457. \)

* = \( p < .05; \) ** = \( p < .01. \)
4.9.5 CCQ and Non-CCQ group differences. A group of 144 participants were randomly selected from the CCQ group ($n = 457$). This was necessary to enable equal group size comparisons with participants in the Non-CCQ group on the measures included in Study 2. Table 14.18 contains the results of the $t$-tests that compared these groups. To account for an inflated familywise error rate a Bonferroni adjustment was used and the alpha level set at .003. The $t$-tests revealed that individuals who endorsed use of consumptive coping were found to score significantly higher on depression, anxiety, and stress symptoms, and avoidance coping, than individuals who did not endorse consumptive coping. The CCQ group also scored significantly lower on mindfulness than the Non-CCQ group. There was no significant difference across the CCQ and Non-CCQ groups on problem solving or seeking social support coping strategies, or on general self-efficacy. With regards to stress appraisals, individuals who endorsed consumptive coping tended to perceive their situation as significantly more stressful than individuals who did not report use of this coping strategy. Also, individuals who consume to cope tended to perceive their stressful event as more threatening, and of greater importance to their wellbeing than individuals who do not consume to cope. However, these difference between the groups on Threat and Centrality appraisals fell just outside the cut-off for statistical significance.

---

3 The analyses were conducted again among another randomly selected group of 144 individuals from the CCQ group, with similar pattern of findings, yet the difference between the groups on Threat scores also reached statistical significance.
**Table 4.18**

*Independent Samples t-tests that Compared the CCQ and Non-CCQ Groups*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>CCQ</th>
<th>Non-CCQ</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>t</td>
<td>df</td>
<td>p</td>
<td></td>
</tr>
<tr>
<td>DASS</td>
<td>Depression</td>
<td>14.65</td>
<td>5.70</td>
<td>12.38</td>
<td>4.95</td>
<td>3.62</td>
<td>286</td>
<td>.01**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>12.88</td>
<td>4.97</td>
<td>11.09</td>
<td>4.11</td>
<td>3.32</td>
<td>276.17</td>
<td>.01**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>16.43</td>
<td>5.41</td>
<td>13.75</td>
<td>4.93</td>
<td>4.39</td>
<td>286</td>
<td>.01**</td>
<td></td>
</tr>
<tr>
<td>MAAS</td>
<td></td>
<td>53.21</td>
<td>14.46</td>
<td>58.35</td>
<td>13.43</td>
<td>-3.13</td>
<td>286</td>
<td>.02**</td>
<td></td>
</tr>
<tr>
<td>CSI</td>
<td>Problem Solving</td>
<td>24.27</td>
<td>5.55</td>
<td>23.34</td>
<td>6.51</td>
<td>1.33</td>
<td>278.97</td>
<td>.186</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Support</td>
<td>20.86</td>
<td>6.63</td>
<td>19.93</td>
<td>6.70</td>
<td>1.19</td>
<td>286</td>
<td>.237</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avoidance</td>
<td>20.75</td>
<td>4.89</td>
<td>17.68</td>
<td>4.82</td>
<td>5.37</td>
<td>286</td>
<td>.01**</td>
<td></td>
</tr>
<tr>
<td>W-R</td>
<td>Problem Solving</td>
<td>8.87</td>
<td>3.89</td>
<td>8.07</td>
<td>4.79</td>
<td>1.56</td>
<td>274.30</td>
<td>.122</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Escape-avoid</td>
<td>9.60</td>
<td>5.37</td>
<td>5.78</td>
<td>4.55</td>
<td>6.51</td>
<td>286</td>
<td>.01**</td>
<td></td>
</tr>
<tr>
<td>GSES</td>
<td></td>
<td>28.80</td>
<td>5.47</td>
<td>29.19</td>
<td>6.51</td>
<td>-.56</td>
<td>286</td>
<td>.577</td>
<td></td>
</tr>
<tr>
<td>SAM</td>
<td>Threat</td>
<td>3.14</td>
<td>.87</td>
<td>2.81</td>
<td>1.08</td>
<td>2.92</td>
<td>273.07</td>
<td>.004</td>
<td></td>
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<td></td>
<td>Challenge</td>
<td>2.69</td>
<td>.90</td>
<td>2.67</td>
<td>.97</td>
<td>.158</td>
<td>286</td>
<td>.875</td>
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<td></td>
<td>Centrality</td>
<td>3.76</td>
<td>.96</td>
<td>3.39</td>
<td>1.20</td>
<td>2.90</td>
<td>272.06</td>
<td>.004</td>
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<td></td>
<td>Control self</td>
<td>3.30</td>
<td>.89</td>
<td>3.31</td>
<td>1.02</td>
<td>-.06</td>
<td>286</td>
<td>.951</td>
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<td></td>
<td>Control other</td>
<td>2.94</td>
<td>1.00</td>
<td>2.92</td>
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<td>.21</td>
<td>281.73</td>
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<td>Uncontrollable</td>
<td>2.29</td>
<td>.96</td>
<td>2.28</td>
<td>1.04</td>
<td>.103</td>
<td>286</td>
<td>.918</td>
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<td></td>
<td>Stressfulness</td>
<td>3.84</td>
<td>.77</td>
<td>3.43</td>
<td>.99</td>
<td>4.008</td>
<td>269.71</td>
<td>.001**</td>
<td></td>
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*Note.* DASS = Depression Anxiety Stress Scale; MAAS = Mindful Awareness and Attention Scale; CSI = Coping Strategy Indicator; W-R = Ways of Coping Scale-Revised; GSES = General Self Efficacy Scale; SAM = Stress Appraisal Measure. CCQ n = 144, Non-CCQ n = 144. ** = p < .01.

**Discussion**

The primary aim of this study was to determine whether the structure revealed through the EFA in Study 1 could be confirmed among another sample, either
supporting or disconfirming the reliability of the factor structure and general scale
validity. It was anticipated that the CFA would reveal four factors that represent
specific functions of consumptive coping: Time-out, Escape Psyche, Physical Relief
and Improve Mood. Findings revealed that the item to factor relationships found in
the EFA were partially confirmed by results of the CFA. Five of the items were
deleted in order for the CCQ to meet statistical requirements of an adequate fitting
model. Despite this, the general structure of the proposed model remained. The
revised version of the CCQ consisted of 15 items, four for each of the subscales
Time-out, Escape Psyche and Improve Mood, and three that measured Physical
Relief.

Variance extracted should equal or exceed 50%, and a loading of .7 is
considered the minimum threshold (for construct reliability) except when conducting
exploratory research (Hair et al., 2010). CCQ items were found to display appropriate
factor loadings, and explained at least 56% of the variance in their respective factor.
The four factors also explained varying degrees of the variance on the overall
consuming to cope function. Time-out (27%) and Physical Relief (17%), accounted
for the least amount of variance, and Escape Psyche (51%) and Improve Mood (70%)
contributed the most. These results differed to variance explained by the EFA
conducted in Study 1, which found Improve Mood contributed the least amount of
variance in the model (4.68%), and Time-out contributed the most variance (43.06%).
The lower amount of variance explained by Time-out and Physical Relief in Study 2
is not ideal and requires further examination. Given these results, the second-order
portion of the model becomes somewhat questionable. It is possible that the four first-
order factors may not adequately represent the proposed second-order general
emotion-focused/avoidance factor. As a result, it may be preferable to use the
subscale scores and not the total CCQ score. However, as only one EFA and CFA has been undertaken with the CCQ, there is a need to conduct further research to examine the factor structure of the CCQ in another sample, prior to ruling out the second-order factor. The current results are satisfactory due to the exploratory nature of the research, as the functions of consumptive coping as currently conceptualised have not been measured in this manner previously.

Another issue pertaining to the proposition of a higher order latent variable in the CCQ is worthy of mention. Given that the literature review proposed different functions of consumptive coping, which comprise the factors of the CCQ, it is acknowledged that the appropriateness of a higher order factor could be questioned. While in a sense this may represent a contradiction between the theoretical predictions of the thesis and the findings of Study 2, it also represents a common issue that researchers of psychological phenomena are often faced with. Pett et al. (2003) state that the correlation of factors in a scale is a reasonable assumption in the health sciences because such research often examines conceptually distinct yet related dimensions of a construct. For example, while the Depression, Anxiety and Stress subscales of DASS (Lovibond & Lovibond, 1995) represent distinct constructs, an argument has been made that an overall factor of Psychological Distress can also be implied (Henry & Crawford, 2005). In the case of the current thesis, it was proposed that the functions of consumptive coping are all emotion-focused/avoidant by nature, and in this regard are related. The approach taken in Study 2 was by no means exhaustive, or capable of producing a final version of the CCQ. Further research is necessary to confirm the factor structure of the CCQ that was revealed through the EFA in Study 1, as well as the appropriateness of an overall CCQ factor. Future
directions for refinement and revision of the CCQ are addressed in detail in the
General Discussion chapter of this thesis.

Considering the limited amount of research that has examined these four
functions of consumptive coping, the statistics relating to the goodness of fit indices
and parameter estimates are appropriate. This suggests that the proposed relationships
among the variables that comprise the CCQ may be plausible. The CCQ items explain
the four first-order factors of Improve Mood, Escape Psyche, Time-out and Physical
Relief, which load onto the single second order factor of a general emotion-
focused/avoidant function of consumptive coping. It can be concluded that the items
of the CCQ adequately measure the functions of consumptive coping.

It is also acknowledged that re-specified models should be interpreted with
cautions (Brown, 2006). After revisions in CFA a model technically reverts to an
exploratory rather than confirmatory state (in statistical terms), as there is a chance
that the revisions may have been related directly to the particular sample (Byrne,
2010). Consequently, future research should examine the factor structure of the 20-
item version of the CCQ, to assist in determining whether the changes made in Study
2 are supported in a different sample.

A second aim of Study 2 was to examine the reliability and validity of the
refined CCQ that resulted from the CFA process. Despite the removal of five items,
the Cronbach’s alphas of the CCQ remained acceptable. A Cronbach’s alpha of .89
for the CCQ overall, and alphas that range from .86 to .90 for the subscales (p < .001)
suggest that the items adequately measure the same latent construct (Field, 2009).
Although high, alphas did not exceed .90, which suggests that these items are not
redundant (Streiner, 2003). Further, the high alpha coefficients that were reported in
Study 1 indicated that shortening the scale in future studies would be acceptable if
necessary. Therefore, the alphas of the 15-item CCQ, in conjunction with satisfactory mean inter-item correlations, indicate that the revised version of the CCQ demonstrated adequate internal consistency, at both the overall and subscale level. This provides further support that the multidimensional CCQ accurately captures the constructs it aspires to measure.

For convergent validity it was hypothesised that higher CCQ scores would correlate (to a moderate degree) with greater avoidant coping and (to a moderate degree) with lower self-efficacy. Correlations between the CCQ and measures of avoidance coping in the present study revealed evidence of convergent validity, similar to findings of Study 1. All correlations between the CCQ and avoidance coping were statistically significant, and in a positive direction, whereby higher endorsement of the CCQ overall and subscale scores tended to be associated with greater avoidance coping. In addition, except for Time-out, which shared a weak relationship with both measures of avoidance coping, and Physical Relief, which shared a weak relationship with one measure of avoidance coping, these relationships were of at least moderate strength (and ranged from .32 to .59). These established subscales of the CSI and the WOCS-R represent broader dimensions of avoidance coping, as they measure a variety of avoidant coping strategies. As consumptive coping is conceptualised as an emotion-focused/avoidant coping strategy, the observed relationships with the CCQ make theoretical sense.

For self-efficacy, there were significant negative correlations with Escape Psyche and Physical Relief, indicating that self-efficacy scores tended to be lower for individuals who scored higher on these CCQ subscales. However, similar to Study 1, these relationships were weak. An explanation for these results could be that consumptive coping may provide a means to escape unpleasant thoughts and
emotions or relieve physical sensations that result from a stressor, for some individuals who believe they are unable to effectively control life’s challenges. However, the relationships found were not consistent across the functions of consumptive coping, and were not of sufficient strength to provide support for convergent validity.

It could be that greater use of avoidance coping strategies and a low belief in one’s own ability to cope with stress may each be vulnerabilities for engaging in consumptive coping. Alternatively, upon utilising consumptive coping when stressed an individual may be more likely to engage in other avoidant coping strategies and perhaps feel lower in self-efficacy due to avoiding the stressful event. More research is needed to explore the interrelationships between these variables. However, the present findings suggest that avoidant coping strategies, and to a lesser degree self-efficacy, are related to, yet distinct from the functions of consumptive coping.

For divergent validity it was hypothesised that the CCQ would not correlate (or very weakly correlate) with measures of Problem Solving and Seeking Social Support coping. The overall CCQ factor and its subscales were not related to the CSI scales of Problem Solving and Seeking Social Support coping, or to the WOCS-R Planful Problem Solving scale. Correlations were weak, and most were not significant. The small significant correlations that were revealed suggested that to some degree greater use of Problem Solving coping strategies was associated with higher endorsement of Time-out scores and lower endorsement of Escape Psyche scores. This could indicate that when consuming to cope to achieve a time-out from a stressful event, some individuals may be engaging in problem solving strategies (e.g., planning) at the same time. The weak negative relationship between Escape Psyche and Problem Solving Coping may indicate that as individuals attempt to solve a
stressful event they may be less likely to consume substances to avoid unpleasant emotional experiences. Despite these two weak relationships, these results suggest that the CCQ measures different functions to those associated with the problem solving or seeking social support coping.

Overall, there was support for convergent and divergent validity of the CCQ. Some of the correlations provided evidence that the scales either converged or did not converge on related constructs in a manner consistent with theoretical expectations. Where applicable, the observed correlations with avoidance coping were not so strong to suggest that the items measure the same construct, yet were strong enough to support a relationship in the hypothesised directions. The weak correlations between the CCQ and problem solving coping and seeking social support coping may suggest that the functions of consumptive coping are distinct from the functions served by these strategies. These findings may provide some evidence that the CCQ measures what it aims to.

A final research focus was to enhance understanding of consumptive coping and the functions measured by the CCQ through investigating the manner that this newly developed measure relates to other variables. This was achieved through a number of exploratory analyses. The CCQ was examined with age and sex, and the number and type of substances consumed. The CCQ was also examined with regards to its relationship with a variety of stress appraisals, psychological distress symptoms, and dispositional mindfulness. Lastly, individuals who reported consumptive coping were compared with individuals who did not report consumptive coping on the measures included in the study. These findings are mentioned below, however are discussed in greater detail in the final chapter of this thesis, as they relate to the
overall aim of this research project and the current understanding and measurement approach to consumptive coping.

Age and sex were examined with CCQ scores. Weak significant correlations were evident for age and the CCQ, whereby older adults were less likely than younger adults to consume to cope to facilitate a time-out from the stressor and more likely to consume as a means to relieve physical sensations. However, age related findings should be interpreted with caution due to the sample primarily consisting of participants between 18 and 41 years of age (75%). Therefore these results may not be representative of, nor generalisable to, adults over the age of 41. With regards to sex, a difference in scores on the CCQ between males and females was not found. This indicates that males and females endorsed the functions of consumptive coping to the same degree. This finding must also be interpreted with caution as there was roughly a 1:3 ratio of males to females. The larger proportion of females compared to males could have had a bearing on these findings.

The number of substances consumed was found to be associated with responses on the CCQ. Individuals who consumed three or more substances were found to score higher on the CCQ overall and also on the subscales compared to individuals who consumed only one or two substances. This makes practical sense because if an individual consumes a greater number of substances to cope, it is likely that the variety of substances consumed may be perceived to serve a broader range of functions. This finding may also signify that individuals who consume three or more substances to cope could represent a cohort worthy of future investigation, due to relying more heavily on the various emotion-focused/avoidant functions of consumptive coping.
Associations between the particular type of substance consumed and CCQ scores were also examined. Prior to discussion of these results, it is acknowledged that the analyses which examined whether particular substances may be linked to certain functions was conducted among a sub-section of individuals who consume to cope: individuals who increased consumption of only one substance. These participants were grouped according to the type of substance they consumed, and then compared on responses to the CCQ. These results are therefore limited because they do not apply to individuals who consumed more than one substance to cope. Nevertheless, the results of these analyses may provide some indication of a possible substance to function link, and may therefore point to important directions for future research. For example, individuals who consumed food or alcohol scored significantly higher on the total CCQ score than individuals who consumed caffeine. This finding may suggest that the consumption of food and alcohol is perceived to serve the overall emotion-focused/avoidant function of consumptive coping to a greater degree than caffeine. Further differences between these groups of individuals are discussed below, in the context of the specific subscales where these differences occurred.

Individuals who consumed only cigarettes were significantly more likely to endorse Time-out than individuals who consumed only caffeine or “other drugs.” Perhaps this finding reflects the typical and literal removal of oneself from a situation often required to have a cigarette outside. In Australia, workplaces and social areas do not allow smoking indoors. Thus, the individual who wants to smoke in order to consume to cope often has to remove himself or herself from the situation. It is possible that consumption of caffeine and other drugs (such as paracetamol) do not require removal of oneself from the situation, and may therefore be less associated with the function of Time-out. However it is also acknowledged that there are certain
“other drugs” that would also require individuals to leave a situation to consume to cope (e.g. illicit drugs).

Individuals who consumed alcohol and food were significantly more likely to endorse Escape Psyche than individuals who consumed caffeine. It could be that alcohol and food provide a more direct means to avoid unpleasant thoughts and emotions compared to caffeine. The process and aftereffects involved in drinking alcohol and eating food may facilitate a greater distraction from negative emotions and thoughts, compared to caffeine. This could be because in contrast to caffeine, alcohol can have a greater effect on one’s internal state. For example it has been suggested that alcohol can dull or dampen the stress response (Sayette, 1999), perhaps assisting an individual to escape unpleasant thoughts and emotions associated with a stressful event. In addition, the consumption of food may provide a greater sensory experience than caffeine, inclusive of more scents, flavours, and textures that an individual can focus their attention on, rather than unpleasant emotions and thoughts.

Individuals who consumed food were also significantly more likely to endorse Improve Mood than individuals who consumed caffeine. The various sensory experiences associated with the consumption of food, combined with the subjective enjoyment often associated with consuming food, may explain this finding. As a pastime, eating a meal or a special treat may be associated with pleasurable feelings, which could transfer into the context of coping. Unlike food, caffeine may not be attributed with the qualities necessary to enhance one’s internal state or mood.

Interestingly, there was only one substance that was found to consistently relate to a function to a greater degree than all other substances. Individuals who consumed “other drugs” were significantly more likely to endorse Physical Relief than individuals who consumed the other types of substances. This could be
interpreted in the sense that licit and illicit drugs (i.e., pain killers, sedatives, marijuana, etc) possess a significantly greater capacity to impact on the body and relieve sensations when stressed than the other substances.

The aforementioned results may lend support to the notion that some substances may be associated to a greater degree with particular functions of consumptive coping than other substances. However, although the reported differences were statistically significant, the perceived functions were still endorsed to some degree among all substance categories for Time-out, Escape Psyche, Physical Relief, and Improve Mood. For Physical Relief however, the mean scores were much lower for food, caffeine, cigarettes and alcohol, which could suggest that these substances are not perceived to serve this function in the same capacity as “other drugs.” Furthermore, these findings may be confounded by one specific type of “other drug” however the current research did not obtain specific information about what the types of drugs consumed were. Perhaps a direction for future research could be to collect more detailed information about the specific types of drugs consumed.

In summation, these group comparisons are limited as they preclude the examination of individuals who consumed more than one type of substance. Nonetheless these analyses may highlight intricacies of consumptive coping, and point to directions for future research into this phenomenon. The prospect that specific functions could be closely associated with certain substances is acknowledged, however further research is required to substantiate this claim.

Stress appraisals were linked to some of the functions of consumptive coping. Participants were found to endorse Escape Psyche, Physical Relief and the CCQ overall to a greater degree if the situation was appraised as highly stressful or more threatening. It might be that increasingly stressful and threatening events elicit
heightened unpleasant psychological and physical experiences, which an individual may consume to cope to deal with. An alternative explanation is that consumptive coping (e.g., drinking excessively) may exacerbate the problem, and thus increase the perceived stressfulness of the event. Another explanation is that some individuals may lack appropriate coping skills, which means that negative stress appraisals may be higher, and a reliance on non-problem-focused coping strategies such as consumptive coping increases. There were a number of weak significant correlations for other appraisals, in particular for appraisals regarding centrality, where higher scores on each CCQ factor tended to be associated with higher appraisals of the event as more important to one’s wellbeing. This suggests that consumptive coping is associated with stressful events where the stakes are appraised as high (e.g., long-term consequences and serious implications). Collectively, these findings suggest that the functions of consumptive coping appear to be related to primary appraisals, particularly negative appraisals.

Findings of the present study may also lend some support for the notion that consumptive coping could be associated with unpleasant psychological experiences and dispositional mindfulness. The present findings are consistent with previous research, whereby avoidance coping was linked to psychological distress and low mindfulness (Grant et al., 2013; Penley et al., 2002; Weinstein, Brown & Rodger, 2009; Palmer & Rodger, 2009). Specifically, higher scores on the CCQ total score, Escape Psyche, and Physical Relief subscales were significantly related to higher scores on the experience of depression, anxiety and stress symptoms. With regards to mindfulness, higher total CCQ and Escape Psyche scores were significantly associated with lower mindfulness. These findings show that to some extent individuals who consume to cope as an avoidant/emotion-focused coping strategy,
especially to escape unpleasant emotions and thoughts or relieve unpleasant physical sensations, may also experience heightened depression, anxiety, and stress symptoms, and tend not to be in touch with present moment experiences. As these are correlational and not causal data, it is not clear whether use of consumptive coping causes higher psychological distress symptoms and lower mindfulness or vice versa. In addition, other variables may be linked to the observed relationships. Regardless, the sample was highly distressed (as evident from the above average scores on the DASS) so it is unclear whether these findings could be replicated in a sample that was not experiencing heightened depression, anxiety and stress symptoms.

The final exploratory aspect of this study examined whether individuals who consumed to cope scored differently than individuals who did not consume to cope on measures included in the study. Individuals who endorsed consumptive coping were found to score significantly higher on depression, anxiety, and stress symptoms, and avoidance coping, and lower on mindfulness than individuals who did not endorse consumptive coping. In addition, individuals who reported consumptive coping perceived their nominated event to be significantly more stressful than those who do not consume to cope. Differences on appraisals of threat and how important the event was for ones wellbeing were just outside of the significance criterion. No significant difference was found between individuals who consume to cope and individuals who do not consume to cope on problem solving or seeking social support coping. Indeed, the mean scores for problem solving and seeking social support coping suggest that individuals who do or do not consume to cope apply a range of coping strategies when dealing with stressful situations. This finding was consistent with the results of Study 1. Individuals are not restricted to one coping strategy or style; and although those who consume to cope tend to utilise more avoidance strategies that people who
do not consume to cope, they may use problem solving or seeking social support strategies to similar degrees. Also consistent with findings from Study 1, level of self-efficacy was not found to differ between these groups. Collectively, these findings may suggest that consumptive coping could be associated with certain psychological variables to a greater degree among individuals who use this strategy compared to those who do not. Not only may these findings possess conceptual implications for understanding consumptive coping, they may also highlight avenues for future research that aims to enhance understanding of individuals who consume to cope.

There were limitations associated with Study 2, most of which were similar to Study 1, such as those associated with the sample (e.g., a convenience sample was used), the design (e.g., the results are based on cross sectional data), and the CCQ itself (e.g., self-report measures rely on accurate memory recall). Along with the limitations to Study 1, the limitations of this research will be addressed in detail in Chapter 5. Although not a limitation per se, there were some interesting observations regarding responses to the CCQ in this particular study that are worthy of mention. A methodological change was made post Study 1 whereby participants had to respond to the core item pool of the CCQ even if they did not report consumptive coping. Rather than resolve the problem of incorrect responding as intended, this may have inadvertently highlighted a different issue. Some individuals endorsed the functions of consumptive coping but indicated that consumption did not increase. This may indicate that for some participants, the supplementary question of the CCQ (regarding changes in substances consumed) does not screen participants as desired. This could also indicate that consumption does not necessarily have to increase to serve the perceived functions of consumptive coping. Consumption as usual may be perceived to serve these functions. However, according to the definition of consumptive coping
used in this research, an increase in consumption from what was considered typical was required. This study therefore highlighted a conceptual issue regarding the construct domain of consumptive coping and the nature of this behaviour when utilised as a coping strategy. As this issue is relevant to all of the research conducted in this thesis, it will be expanded upon in the general discussion.

4.10 Summary

The analyses described and interpretations of the findings have served to assist in understanding consumptive coping and the functions this strategy serves. Study 2 demonstrated that the constructs measured by the CCQ that were identified through the EFA in Study 1 can be found among another sample. A critical finding however, was that despite that the overall factor structure of the CCQ was generally confirmed, five items had to be removed to satisfy CFA model criteria. The 15-item CCQ displayed very good to excellent reliability, and satisfactory convergent and divergent validity. Higher scores on the functions of consuming to cope were related to stress appraisals, higher depression, anxiety and stress symptoms, and lower mindfulness. Individuals who engaged in consumptive coping were also found to score higher on avoidance coping, psychological distress symptoms, perceived stressfulness, and lower on mindfulness than individuals who do not consume to cope. The CCQ, although promising, would benefit from future exploration of the factor structure. Despite requiring additional examination, the findings of Study 2 suggest that the CCQ appears to be a sound instrument that can identify individuals who utilise the consumptive coping strategy, and the different functions that they perceive this coping strategy serves.
Chapter 5

General Discussion
5.1 Aim of Thesis

The overall aim of this thesis was to develop a reliable and valid measure of consumptive coping that primarily investigates the functions that underlie this coping strategy. The constructed measure titled Consuming to Cope Questionnaire (CCQ) is the first scale designed specifically to measure the perceived functions of consuming to cope. Prior to the development of the CCQ, there were no published self-report measures of consumptive coping that comprehensively examine this coping strategy and the reasons people employ it. Previous measurement of consumptive coping has typically examined coping oriented consumption of substances in one of two ways. Firstly, consumptive coping has been measured in coping scales as one type of an emotion-focused or avoidant coping strategy, where the frequency of use of this strategy was measured. Coping scales tend to measure consumptive coping by including one item, or only a few items without assessing the perceived function of this behaviour as a coping strategy. Secondly, coping has been measured as one type of motive or expectancy that drives consumption of substances, whereby the reason (e.g., coping motive) or anticipated effect (e.g., tension reduction expectancy) of consumption is examined. Motive or expectancy measures typically focus on a single substance. Thus, extant measures do not examine consumptive coping in great depth. It was therefore deemed important to construct a scale that measures consumptive coping in a systematic and detailed manner. The development of such a scale will further develop the work of previous, but limited research in this area.

The development and refinement of the CCQ occurred in three phases. Initial content validity analysis and a pilot study was undertaken in the first phase. Exploration of the factor structure, reliability and validity of the CCQ was the focus
of the second phase. Individuals who consume to cope were also compared with individuals who did not report use of this strategy on the validity measures in the second phase. The third phase confirmed the factor structure, reexamined reliability and validity, and explored whether the CCQ was related to appraisals, depression, anxiety, and stress symptoms, and also dispositional mindfulness. Exploratory analyses of the CCQ were also performed in this phase, and differences between individuals who consume to cope and individuals who did not report use of this coping strategy were investigated.

5.1.1 Phase one findings. The original version of the core item pool of the CCQ consisted of 90 items that examined five possible functions of consumptive coping. The hypothesised functions derived from the literature were escape/soothe emotions, physical relief, distraction from thoughts, time-out and self-punishment. Supplementary questions were also developed to precede the core item pool, to frame the focus of responses to the scale. These questions directed participants to briefly describe a personal stressful event that occurred in the past month, rate the perceived stressfulness of said event, and state whether their consumption of food, caffeine, cigarettes, alcohol, and/or other drugs changed from usual, during this stressful event. Once the CCQ was constructed, content validity analyses were undertaken. Initial item screening procedures incorporated item allocation and construct relevance tasks completed by psychology academics, PhD students, and registered psychologists. Item allocation results identified nine items that were ambiguous and potentially tapped into the content areas of more than one function, and so were deleted. Construct relevance results found that the remaining 81 items that comprised the core item pool were appropriate. A pilot study was conducted on 52 participants to further examine the content validity of the CCQ. Results of the pilot study led to the revision
of the measurement format for the supplementary question that examines changes in substances consumed, and the inclusion of three new items. The resultant version of the CCQ contained 84 items, and demonstrated acceptable content validity at this preliminary stage of development.

5.1.2 Phase two findings. The CCQ and scales to assess validity were completed by 666 participants. Prior to examination of the underlying factor structure of the 84 items of the CCQ among a large sample, 10 items that examined self-punishment and 2 items that examined physical relief were excluded from the analyses. Responses to these items were heavily skewed and the direction of the skew suggested that these items were not applicable for the majority of participants. Exploratory Factor Analysis (EFA) of responses to the remaining items was conducted, which revealed four factors. The five highest loading items were retained for each factor, which together comprised the 20-item CCQ. The hypothesised functions of Time-out and Physical Relief were supported by the factor structure. However the items originally devised to measure escape/soothe emotions and distraction from thoughts did not group into the hypothesised functions. These items were split across two factors. One factor represented the capacity for consumptive coping to facilitate escaping unpleasant emotions and thoughts (labelled Escape Psyche), and the other factor represented consumptive coping to improve one’s internal state (labelled Improve Mood).

The 20-item CCQ displayed excellent internal consistency reliability. In support of convergent validity, greater endorsement of the CCQ was generally associated with higher avoidance coping and experiential avoidance, and lower distress tolerance and self-esteem. However, with the exception of avoidance coping, this trend did not reach moderate strength for each of the sub-scales of the CCQ.
Divergent validity was supported by the general lack of relationship between the CCQ and measures of problem-solving coping and seeking social support coping.

Comparison of individuals who reported consumptive coping and individuals who did not revealed that the former group scored significantly higher on perceived stressfulness of the event, avoidance coping, experiential avoidance, and lower on aspects of distress tolerance. The results of Study 1 indicated that the 20-item CCQ was developing into a promising instrument that measures consumptive coping and the perceived functions of this emotion-focused/avoidant coping strategy. Further examination was required.

5.1.3 Phase three findings. The CCQ and other measures included in the questionnaire battery were completed by 608 participants. Confirmatory Factor Analysis (CFA) of responses to the 20-item CCQ generally supported the anticipated factor structure of Time-out, Escape Psyche, Physical Relief and Improve Mood. In order to satisfy the model fit criteria, two items were removed from Physical Relief and one item was removed from each of the remaining factors. This resulted in the 15-item CCQ.

The revised version of the CCQ demonstrated very good to excellent internal consistency reliability. Support for convergent validity was found when greater endorsement of the CCQ overall and each subscale was typically associated with higher avoidance coping. In support of divergent validity the CCQ was not moderately or strongly associated with measures of problem-focused coping or seeking social support coping.

Several exploratory analyses were also conducted to enhance understanding of consumptive coping. Neither age nor sex was strongly related to responses on the CCQ. Consumption of more substances was linked to greater endorsement of the
CCQ functions. For substance type, although some substances were linked to certain functions to a greater degree than other substances, people who indicated they consumed “other drugs” were much more likely than people who consumed any other substance to score higher on Physical Relief (this finding was revealed among individuals that consumed only one category of substance in order to cope). Results of exploratory analyses also revealed that the more threatening and stressful the event was perceived to be, the more individuals tended to consume to serve the functions of Escape Psyche and Physical Relief. Higher Escape Psyche, Physical Relief and overall CCQ scores were associated with greater depression, anxiety and stress symptoms experienced during the week prior to completing the CCQ. Higher overall CCQ score and Escape Psyche scores were associated with lower levels of dispositional mindfulness. Comparisons between individuals who reported consumptive coping and those who did not, revealed that individuals who consume to cope tended to experience more depression, anxiety and stress symptoms, use more avoidance coping strategies, be less mindful, and perceive the event as more stressful. From Study 2 it is apparent that the 15-item CCQ, despite requiring further examination, is a reliable and valid measure of the functions that underlie consuming to cope.

5.1.4 Summary of findings. The findings suggest a reliable and valid measure of consumptive coping has been developed. The CCQ identifies four functions that individuals perceive this coping strategy serves. It is acknowledged that the factor structure of the CCQ changed between Studies 1 and 2, and subsequently requires further research. Nevertheless, the overall psychometric properties of the CCQ are acceptable, and suggest that it measures what it intends to. Collectively, these findings
provide support for a functional approach to the measurement of the consumptive coping strategy.

5.2 Limitations

Many of the limitations of previous research and measurement of consumptive coping were recognised and overcome in the current research. However, a number of issues have been identified that warrant consideration in the interpretation and generalisability of the present findings. These limitations range from issues associated with the sample, the research design, and the CCQ itself.

5.2.1 Limitations of the sample. While efforts were made to obtain a large sample that represented the broader community, it is possible that the sample was biased and this had an impact on the findings. This could have implications for the generalisability of the results. Sample bias could be associated with the recruitment method applied, the self-selected nature of participation, and certain demographic characteristics of the sample, as discussed below.

The large samples used in the current analyses may be more representative of the Australian population than if recruitment had occurred via regional newspaper advertisements (e.g., statewide or city based selection), or via university students alone. This is because in addition to the recruitment of university students, Australia-wide recruitment was made possible by obtaining participants through advertisements on facebook. Approximately 11.4 million, or just under 50% of Australians had an active facebook account in 2013 (eMarketer, 2013). Thus it is possible to contact a broad range of Australians through this social networking website. Nevertheless, the current research was conducted with a convenience sample, and facebook users may
differ from non-users in certain ways. For example, research among 1,324 self-selected Australians who ranged in age from 18 to 44 years, and were either facebook or non-facebook users, revealed differences in personality characteristics between these two groups (Ryan & Xenos, 2011). Specifically, it was found that facebook users tended to score higher on extroversion and narcissism, and lower on conscientiousness than non-facebook users. It is acknowledged that personality characteristics of facebook users such as these could have influenced the results of this research, or at least be overrepresented in the current samples compared to the general population.

Another bias possibly associated with the sample may be linked to the advertisement used to recruit participants, which invited individuals to partake in a research study on coping. Certain individuals may have been drawn to, or more motivated to take part in a study on coping upon sighting the advertisement. For example, individuals who were currently experiencing a highly stressful event may have been more likely to participate in the research. This may be supported by the results of Study 2, whereby the participants reported to be experiencing above average depression, anxiety, and stress symptoms (according to conventional cut-off values for the DASS). Such individuals may have been particularly interested in participating in research on coping because of their unpleasant psychological state at the time, perhaps associated with the stressful event. This could also suggest that the current findings may not apply to individuals who are lower in psychological distress symptoms. It is recognised that that this aspect of the recruitment process could have biased the nature of the sample to some degree.

The sample may also have been biased by other characteristics of individuals who self-selected to participate. The participants self-selected into the current
Research, either as university students in order to obtain course credit, or as members of Facebook upon sighting an online advertisement. Research has shown that individuals who voluntarily participate in research have been found to be lower in the personality dimension of neuroticism and higher in conscientiousness, extraversion, and agreeableness than people who do not participate (Lonnqvist et al., 2007). Research volunteers tend to be more psychologically adjusted, have a greater sense of duty and compliance, and a higher need for interaction and perhaps even social approval (Lonnqvist et al., 2007). Personality profiles of individuals who voluntarily participate may therefore be different to personality profiles of the broader general population (Lonnqvist et al., 2007). Furthermore, the personality characteristics of individuals who tend to self-select may also have indirectly influenced the current research through links that these personality traits may have with coping. For instance, neurotic personality traits have been found to be positive predictors of avoidance/emotional discharge coping (Vollrath, Torgersen, & Randolf, 1995). This could mean that the lower neuroticism profile of individuals who tend to self-select could have influenced the representativeness of consumptive coping as measured in the current sample. There may have been less avoidant/emotional coping in the current sample than in the general population. Thus it is possible that the factor structure of the CCQ and results of this research may not hold true for people high on neuroticism.

In addition to sampling issues related to over-coverage of characteristics (compared to the wider population), under-coverage within a sample can be a serious problem in online surveys based on self-selection (Bethlehem, 2010). Individuals without internet access were unable to participate in the current study, as potential participants had to initially become aware of the research study and participate via the
World Wide Web. In addition to these individuals who were unable to participate, issues associated with under-coverage in the sample warrants consideration of individuals who opted out of participation after clicking on the hyperlink to the study. Certain factors may be related to such non-participation. For example, it is possible that individuals who did not consume to cope may have been more likely to select-out of participation after viewing the information letter which stipulated the focus of this research study as consumptive coping. Another possibility is that the idea of thinking about a recent stressful event was unappealing or even perceived as potentially traumatic for some individuals, who subsequently declined participation. The parameters of the online data collection may also have contributed to non-participation. It was required that answers were made to all items in order to progress through the questions. While this eliminated the issue of missing data, requiring responses to all questions in order to proceed may have influenced attrition. When an individual was uncertain about a response, left the item blank and then could not proceed, they could have guessed or responded randomly, or alternatively may have withdrawn from the study. An advantage of requiring responses to all questions in order to proceed is that it may have assisted participants if they accidentally missed a response, or thought they had selected a response but it had not been locked in (e.g., if they moved the cursor away from the point too early). However, those who found it harder to understand or respond may have been eliminated from the sample. It is impossible to ascertain information on those who were unable to participate, chose not to participate in the first instance, or dropped out of the study. However, it is possible that non-participation impacted on the results, as characteristics associated with individuals who opted out of the current study may therefore have been under-represented in the samples.
Males and older adults were also underrepresented in the current research. Females and participants aged between 18 to mid 30’s were thus overrepresented in the samples. This could have influenced the analyses undertaken to determine the factor structure of the CCQ, as gender has been related to the experience of stress and coping (Helgeson, 2012), as has age (Aldwin, Yancura, & Boeninger, 2007). Women have been found to generally use a broader range of coping strategies than men (Eaton & Bradley, 2008; Tamres, Janicki, & Gelgson, 2002), and also greater avoidance coping (Brennan, Holland, Schutte, & Moos, 2012). However some research has not supported a difference between women and men on avoidance coping (Eaton & Bradley, 2008). There are also mixed findings in the associations between age and avoidance coping. Cross sectional studies have shown that avoidance coping declines with age (Aldwin, Sutton, Chiara, & Spiro, 1996; Amirkhan & Auyeung, 2007; Brennan et al., 2012), yet other research has found the opposite trend (Aldwin, 1991).

In Study 2 of the current research weak correlations were evident, where older adults were less likely to endorse Time-out and more likely to endorse Physical Relief. Gender differences on the CCQ were not supported. It is possible that these results were influenced by the disparity on these demographic characteristics. Among a more representative sample the outcome of these analyses could be different.

Overall, biased sampling could have influenced incorrect estimation of population parameters within the current sample, possibly limiting the generalisability of findings, or resulting in erroneous conclusions. For instance, over-representation of characteristics associated with individuals who tend to voluntarily participate could hypothetically lead to a difficulty in determining the validity of the factor structure of the CCQ, the observed relationships with consumptive coping, or the differences between individuals who consume to cope and those who do not. Sample
homogeneity associated with characteristics of individuals who self-select could be a potential confound, which, combined with the other potential sampling issues in the current sample, may have led to a CCQ factor structure and results that could not be replicated in a sample that is representative of the population. Based on these issues, the samples used in the current research may not be representative of the general Australian population, subject to several biases, and thus has limited generalisability.

5.2.2 Limitations of the design. The current studies utilised cross sectional design with online data collection. Cross-sectional design is commonly utilised in coping research. Combined with online data collection, this approach is becoming increasingly popular due to time efficiency, and the ability to gather large amounts of data from large numbers of participants at low cost (Bethlehem, 2010). In the current research, this design provided complete anonymity in responding, which could have facilitated more honest and valid responses. Nevertheless, the design of this research was also subject to weaknesses.

The snapshot nature of cross-sectional data does not permit causal inferences. In Study 2 for instance, it was found that the CCQ and depression symptom scores were positively related. Cross-sectional data cannot disseminate whether consumptive coping exacerbates depressive symptoms or whether depressive symptoms mobilise consumptive coping. It is also a possibility that the observed relationships between consumptive coping and depressive symptoms were influenced by a construct that was not measured in Study 2 (e.g., perceived social support). Although unable to conclusively demonstrate causality, a strength of the cross-sectional design applied in the current research is that it revealed interesting associations and directions for future causal models.
The current cross-sectional design did not provide any indication of responses over time or different occasions. All analyses in the current research were based on responses taken at one point in time, relating to one stressful event. As a result, whether consumptive coping and the functions served by this strategy are stable or tend to vary across different situations and over time for individuals was not examined.

It is also acknowledged that the ordering of the items and questionnaires may have influenced these data. Order effects were not controlled for, which could have implications for how the questions were answered. The preceding items, or the overall sequence of questionnaires may have influenced responses to items. However, the CCQ was presented first in both studies, so this limitation may relate only to the validity measures.

In relation to online data collection, the conditions under which participation occurred was likely to be varied. The participation setting could not be managed in the same way that controlled administration and completion of questionnaires (e.g., in a laboratory setting) could be. Completing the questionnaires online, participants could have been distracted by their environment whilst responding, influencing the validity of responses. For example, if participation occurred in a noisy room or whilst watching television, it is possible that the respondent’s attention may not have been completely on the task at hand whilst responding to every item. This could have influenced the validity of responses, and thus the validity of findings based on those responses.

It is acknowledged that there were limitations associated with the design of the current research. Notwithstanding these issues, the approach undertaken allowed for
the thorough examination of the perceived functions of consumptive coping in a manner that extends upon previous work in this area.

5.2.3 Limitations of the CCQ. The CCQ is the first scale dedicated specifically to the measurement of consumptive behaviours as a coping strategy in response to a stressful event. The scale also examines the perceived functions that these changes in consumptive behaviour may serve. As a pioneering measure it is not surprising that there are limitations associated with the CCQ itself.

The CCQ does not actually measure functions of consumptive coping, only perceived functions, and memories of consumptive coping behaviours as applied during a recent stressful event. The measurement of abstract constructs such as perceived functions of coping is intrinsically difficult. One reason for this is because data on coping are susceptible to participants’ memory biases (Penley et al., 2002; Todd et al., 2004). It is therefore possible that memory will be an influential component in responses, for instance salient memories will be easier to recall than non-salient memories. Memory may also influence whether or not one changed consumption and why consumption was changed at that particular point in time. For example, a few extra drinks when stressed might not be noted or deemed as significant by respondents. Therefore, CCQ scores may be reflective to some degree of the participants’ memory capacity and level of awareness, or at least potentially constrained by it. Memory can be affected by many factors, including stress, which could be particularly relevant to the current study. Research has shown that stress exposure can impair retrieval of emotional memory material, independent of time of day (Smeets, 2011). Because of this, stress may be a compounding factor in considering the reliability of responses to the CCQ.
A common limitation associated with scale construction is also worthy of mention in relation to the CCQ. Items belonging to the same sub-scales of the CCQ may to some extent have represented restatements of the same construct. This could have contributed to the high internal reliabilities found. However, in initial stages of scale development it is important to examine items that are somewhat similar in content, although different in wording and composition (DeVellis, 2011). This assists in examining how the items capture the targeted construct, and revealing the items that may be deemed most representative (DeVellis, 2011).

It is also acknowledged that the current research primarily utilised a deductive approach to develop the items for the core item pool of the CQQ. Although an inductive approach to item development was incorporated into the pilot study (where participants were asked to list any additional functions of coping that were not identified by the core item pool), which led to the inclusion of three inductively derived items, the sample size was small. It is possible that not all functions of consumptive coping were captured by the largely deductive approach involved in construction of the CCQ.

Another limitation of the developed scale is that the current conceptualisation and measurement approach of the CCQ does not allow for examination of non-conscious aspects of consumptive coping. It is possible that some people may consume to cope without conscious awareness or deliberate intention to engage in such behaviour. For example, some people may not be aware that they eat more when stressed as it is a non-conscious reaction to stress, rather than a conscious coping strategy used to deal with stressful events. However, whether non-conscious phenomena can be accurately measured by self-report coping measures and whether non-conscious defense behaviour is conceptually analogous to coping behaviour has
been questioned (Cramer, 1998). Coping typically infers intent to cope, whereas constructs like defenses may capture the non-conscious side of dealing with stressful events. A similar argument has been made for instances where automatic emotion regulation-strategies that involve health behaviours may not always be fully conscious (DeSteno, Gross, & Kubzansky, 2013). While non-conscious phenomena may not equate to coping behaviour, it is acknowledged that there may be some non-conscious aspects of consumption that were not captured by the CCQ.

Obtaining accurate self-report measurement of consumptive coping is also related to the styles versus process debate of coping measurement. One main limitation of the process approach to measurement of coping is that it does not assess coping styles. Accordingly, in its current state the CCQ cannot examine dispositional consumptive coping, or the extent to which an individual typically engages in this coping strategy when dealing with stressful events. It is possible that the instructions of the CCQ could be modified to examine consumptive coping with stress in general, rather than to a specific stressful event. However there may be a greater chance that doing so would impair the validity of responses. Dispositional coping measures may produce data that could be more easily influenced by retrospective recall bias in comparison to process measures (Todd et al., 2004). Nevertheless, the CCQ does not facilitate assessment of how one generally copes with different events.

It is also acknowledged that there may be limitations associated with requesting participants to select a stressor to which they respond to on the CCQ. As Penley et al. (2002) describe, conducting analyses on coping data that relates to various types of stressors may minimise the associations between coping and other variables (e.g., psychological outcomes). This may occur when the relationship between coping and other variables is influenced by characteristics of specific
stressful events, which is lost when different types of events are examined concurrently. Although the current research considered the influence of situational factors such as perceived stressfulness, other elements, such as the type of situation itself may have influenced the results, and were not accounted for.

Limitations of the CCQ may also be associated with the supplementary questions that examine changes in substances consumed. The measurement format applied did not allow for the collection of data regarding the exact substances consumed (e.g., whether coffee, tea, and/or energy drinks were consumed regarding caffeine, what “other drugs” were consumed, or whether healthy foods and/or unhealthy foods were consumed, etc). Interpreting the results from this supplementary question is limited to the overarching categories of substances, rather than on a substance specific level.

The abovementioned supplementary question of the CCQ may also be limited because it does not assess the quantity that was consumed, instead it measures the extent of increase or decrease in individuals’ consumption from what was considered usual. This information was collected to examine changes in consumption that occur when stressed, to give an indication of the behavioural aspect of consumptive coping. In focusing on changes in consumptive behaviour from typical, the actual amount of the substance that was consumed was relative across the participants. However, collection of information regarding the specific quantities consumed may have allowed for a more comprehensive understanding. In particular, it may be possible to identify individuals at risk of potentially maladaptive consumptive coping behaviours (e.g., if a large quantity of alcohol was consumed).

An increase in consumption was considered central to identifying consumptive coping behaviour in the current research, yet it is possible that people may not
necessarily need to increase consumption to consume to cope. It was revealed in Study 2 that some individuals indicated that consumption served a function despite consumption not increasing. Perhaps consumption as usual can serve the perceived functions of consumptive coping. Indeed it may be the perception or intent that underlies consumption which determines whether consumptive behaviour is a coping strategy or not, and this may not always involve an increase in consumption.

Responses to the core item pool of the CCQ relate to coping functions perceived to underlie consumption, however responses to these items may not relate to all substances that were reported to increase during the time of stress. It is possible that substances may have increased during the stressful time for circumstantial reasons as well as for coping. For example, an individual may have attended various social events where they increased consumption of food, cigarettes, or alcohol, etc, during the time they were faced with the stressful event. Thus while consumption increased it might not have been a result of stress but a result of other personal circumstances. It is therefore possible that links drawn between the core item pool and this supplementary question may be questionable, as it can not be assumed that the substances for which consumption increased are directly related to the coping functions endorsed.

The instructions of the core item pool of the CCQ direct participants to think about why they consumed more during the stressful event. However, examining whether certain functions are linked to certain substances is difficult. The current state of the CCQ restricts examination of a substance function link beyond the comparisons that were made in Study 2, whereby individuals who increased consumption of only one substance were grouped according to the substance type, and compared on the extent to which the functions were endorsed. These findings indicated that in general,
any substance can be perceived to serve the functions of consumptive coping, although some substances may be more strongly associated with certain functions. For instance, individuals who only consumed “other drugs” scored higher on Physical Relief than individuals who consumed one of the other substances. Nevertheless, with the current version of the CCQ it is only possible to determine the function/s that underlie consumptive coping, not the specific substances that the endorsed functions relate to. It is acknowledged that just as there are varying physiological effects of substances, there may also be functional differences among substances. While this issue may limit the results of the CCQ, the primary focus of this research was not what individuals consumed to cope, but rather why they consumed to cope based on the perceived functions of this coping strategy.

5.2.4 Summary of limitations. Despite the strengths of the current research, various limitations have been discussed. The sample was not randomly selected or representative of the Australian population. The design of the research was also subject to limitations (e.g., the cross-sectional monomethod approach). The CCQ itself was susceptible to limitations such as those inherent to all self-report coping measures, and those associated specifically with the measurement of consumptive coping. To address these issues future efforts should therefore aim to attain a more representative sample, measure consumptive coping via alternative research designs, and modify aspects of the supplementary questions of the CCQ, as discussed later. Notwithstanding these issues, the benefits of this overarching measure of the functions of consumptive coping remain. The information that has been obtained from the CCQ extends upon what was previously available, and allows for a multifaceted examination of this phenomenon, which in turn, has led to unique implications of this research.
5.3 Implications

Given the aforementioned limitations, the current investigation, which focused on the perceived functions of consumptive coping via the development of the CCQ, has facilitated insight into this coping strategy. Accordingly, there are implications of the findings. First and foremost, the CCQ has research and practical utility. Secondly, consumptive coping and the functions served by this strategy appear to be related to a range of avoidant-oriented and adverse psychological experiences.

5.3.1 Utility of the CCQ. Despite the possible bias in the samples utilised in this research, it can be inferred from the current findings that consumptive coping is possibly utilised by a vast number of Australians. Consumptive coping was found to occur in a large proportion of the pilot study sample, as well as both of the major studies, ranging from 74% to 90% of the participants surveyed. Many individuals engaged in consumptive coping during their nominated stressful experience to achieve a time-out, to escape unpleasant thoughts and emotions, to relieve unpleasant physical sensations, or to improve their internal state/mood.

These data collected via the CCQ can be used to systematically evaluate the role that consumptive coping is perceived to play in assisting individuals to deal with stressful events in life. The CCQ can subsequently facilitate more detailed research into this phenomenon as an efficient measure that can be easily administered online or in hard copy format. If administered longitudinally, the CCQ could also be helpful in evaluating how an individual employs consumptive coping across different situations. Overall, the current research provides evidence that the perceived functions, or reasons that people consume to cope can be measured reliably and validly in a self-report scale format.
In addition to being an original measure of consumptive coping that could enhance the progress of research in this area, the CCQ has practical value. One reason for this is that emotion-focused/avoidant coping strategies (such as consumptive coping) have been linked to adverse outcomes (Grant et al., 2013; Penley et al., 2002). While consumptive coping is not fundamentally maladaptive, this strategy incorporates health behaviours that, under certain circumstances such as excessive consumption, could be linked to and/or create problematic physical and psychological health issues. For example, in regard to food, excessive consumptive coping could be linked to unhealthy weight gain and body image dissatisfaction. In regard to caffeine, excessive consumption for coping reasons could be linked to caffeine intoxication which involves psychological symptoms such as nervousness and irritability or physical symptoms such as gastrointestinal upset (American Psychiatric Association, 2013). Excessive consumption of cigarettes, alcohol, and/or other drugs as a coping strategy may contribute to health and social problems such as the development of addiction. In the current research it was revealed that more than half of the individuals who consumed to cope ingested two or more substances, which could increase the potential risk for adverse outcomes associated with consumptive coping. Further research is needed to examine the extent to which consumptive coping is detrimental to health. Understanding the reasons why individuals consume to cope as measured by the CCQ could determine the mechanics that drive problematic consumption.

Where consumptive coping is linked to detrimental outcomes, the CCQ could be utilised as a tool to guide therapeutic work in order to promote healthier practices and to modify consumptive coping where required. For example, if an individual uses consumptive coping to achieve time-out from a stressful event, the balance between taking time away from the event and working towards managing or resolving it could
be examined in therapy. There is a distinct difference between time-out with the intention of dealing with the stressful event afterwards and chronic time-out without the intention of dealing with the stressful event (Ingledew & McDonagh, 1998). The therapeutic space could also be used to collaboratively devise alternative ways to take time-out during a stressful event that do not adversely impact on one’s health, such as relaxation meditation.

If an individual consumes to escape unpleasant thoughts and emotions during a stressful event, it would be useful to determine the extent to which consumption interferes with more adaptive methods for dealing with unpleasant emotions and thoughts. Therapy could be a place for constructively validating, expressing, and processing difficult emotions. Some individuals may not possess adequate skills which enable them to acknowledge unpleasant emotions and effectively manage responses to them. Rather than relying on consumption, psychological interventions could support the development and practice of a range of emotion regulation skills.

If relief of unpleasant physical sensations underlies consumptive coping, a therapist may assist in investigating the psychosomatic nature or purpose of the unpleasant bodily experiences in order to enhance mind-body connection. Psychoeducation around the ways that the psychological experience of stress can manifest physically may help individuals to identify the link between stress, unpleasant physical sensations and consumptive coping. Instead of responding to stress and associated sensations via consumption, individuals could be taught alternative ways to respond to these sensations that are less harmful, such as mindfulness meditation practices.

If consumptive coping is perceived to improve one’s internal state, therapy may provide a means to investigate and expand the repertoire of strategies that an
individual could implement to improve their mood. Self-care strategies such as exercising, spending time with friends, or engaging in a hobby etc when stressed, could be practiced and then reviewed in therapy. Participating in positive activities such as these for self-care could replace consumptive coping that aims to enhance mood.

The information obtained through the CCQ could also be utilised within established psychotherapeutic modalities. For example, Mindfulness Based Cognitive Therapy (MBCT) aims to increase awareness of present moment experiences, foster non-judgment and change the unhelpful ways that people relate to their negative thoughts, emotions and physical sensations (Teasdale et al., 2002). Administering the CCQ could be a tangible way to develop insight into and create a dialogue around maladaptive consumptive coping in order to modify its application. Modification of the use of substances as a coping strategy requires that the thoughts around why they are used (e.g., the perceived functions) be examined. Rather than avoid unpleasant psychological or physical experiences, mindfulness encourages an individual to become aware of the experiences and make conscious choices about how to respond to those experiences effectively (Segal et al., 2013). Increasing ones capacity for awareness through MBCT subsequently assists individuals to respond skillfully to stressful events and select coping strategies wisely. Facilitating change could be an integral component in fostering the application of sustainable coping strategies while countering consumptive coping that is deemed harmful and destructive. In support of the utility of the CCQ within MBCT, Study 2 revealed that individuals who consume to cope tend to be lower in mindfulness and may therefore benefit from MBCT that integrates consumptive coping into the treatment focus.
It is acknowledged that consumptive coping behaviour may not always require modification. In accordance with Lazarus and Folkman’s (1984) model of coping, strategies are not assumed to be categorically adaptive or maladaptive. It is only upon examination of specific conditions that such an assertion can be made. Therefore in some instances the insight obtained through therapy regarding the specific circumstances of consumptive coping may not require any change (e.g., if consumptive coping is applied minimally or intermittently with a stressor one has no control over). However, in cases where consumptive coping involves excessive consumption used to deal with a prolonged stressor, this coping strategy will likely be detrimental to health, and would indicate the need for harm minimisation. The CCQ identifies fundamental aspects of consumptive coping, but the extent to which consumptive coping is detrimental cannot be elucidated directly from the measure itself. Instead, the changes in consumption and the perceived functions identified by the CCQ may provide a foundation from which to explore the maladaptive nature of consumptive coping.

As evident from the preceding discussion, the CCQ has broad utility. The developed measure could be applied in a variety of contexts. Not only could the developed measure be instrumental in enhancing understanding of this phenomenon through research, the CCQ could also assist with the identification of areas for psychotherapeutic work when management or modification of consumptive coping behaviour is desired or necessary.

5.3.2 Consumptive coping and adverse psychological characteristics.
Another implication of this research stems from the links that were evident between consumptive coping and other measured variables. The functions of consumptive coping were endorsed to a stronger degree by individuals that used other avoidance
coping strategies, reported greater experiential avoidance, lower levels of distress
tolerance and lower dispositional mindfulness. Higher endorsement of the functions
of consumptive coping was also associated with higher perceived stressfulness of the
event and threat appraisals. These associations, in conjunction with the positive
relationships between the functions of consumptive coping and depression, anxiety
and stress symptoms, are important. It is possible that consumptive coping could
underlie or be embedded within, a constellation of characteristics associated with
avoidance and a difficulty or unwillingness to experience unpleasant internal
experiences (as evidenced by higher CCQ scores being associated with greater CSI
Avoidance, WOCS-R Escape-avoidance and AAQ-II scores, and also with lower DTS
and MAAS scores). Understanding the complex dynamics between these variables
and psychological distress symptoms may assist with developing a clearer picture of
these characteristics and the extent that they are interrelated. Perhaps consumptive
coping is one component a much broader and possibly ingrained psychological
tendency characterised by difficulties integrating and processing psychological
experiences. An examination of such interactions among these variables was beyond
the scope of the current analyses, however presents an important area for future
research.

An alternative explanation could be that the observed relationships in the
current research are connected through a personality variable that was not measured.
For example, individuals high on the spectrum of neuroticism have been associated
with increased use of maladaptive (avoidant/emotion-focused) coping strategies,
heightened negative stress appraisals, lower mood, and more severe emotional
reactions to stress (Suls & Martin, 2005). In other research the “distressed” or Type D
personality has been associated with avoidance coping strategies, higher perceived
stress and greater levels of general distress (Polman, Borkoles, & Nicholls, 2010). Individual differences associated with personality may be an area of future research into consumptive coping.

With regards to the association between consumptive coping and psychological distress, it is possible that consumptive coping itself could increase stress levels and associated distress. Previous research has found that unhealthy coping strategies such as smoking have been shown to increase stress levels (Parrott, 1999). Although somewhat pleasurable in the short term, consumptive coping could also generate further perceived stress. There may be new stressors that arise which are related to the negative health effects, or concerns of potential negative effects, caused by increased consumption of substances. For example, individuals who smoke cigarettes to cope with stress may find that they become stressed about the adverse physical affects of smoking and probable damage this coping strategy causes to their health. These concerns are in addition to the original stressor.

The relationships between consumptive coping and the avoidance and psychological distress constructs that were revealed in the current research are salient. Indeed, it is apparent that consumptive coping, although not inherently or categorically maladaptive, does appear to be linked to a number of adverse psychological experiences, which can be somewhat distressing. These associations, combined with the findings of the current study that individuals who consume to cope can be differentiated from individuals who do not consume to cope on avoidance-oriented constructs (e.g., avoidance coping), person variables (e.g., mindfulness), and outcome variables (e.g., depression, anxiety and stress symptoms), may be key to understanding the broader relevance and salience of consumptive coping.
5.3.3 **Summary of implications.** The findings from this research emphasise the significance of examining consumptive coping and the utilisation of CCQ. Not only is the CCQ potentially useful for advancing research into this phenomenon, it also has practical utility. The CCQ could assist psychologists to identify individuals who consume to cope, and to better understand the mechanics of this behaviour as a coping strategy, so that if desired, change could be achieved. Identifying the reasons that individuals consume to cope using the CCQ will assist in the provision of individualised treatment goals, especially for cases where the coping strategy is relied upon heavily. Consumptive coping also appears to be interconnected with avoidant and adverse or unpleasant state and dispositional constructs. These implications affirm the value of the CCQ and support further research into consumptive coping.

5.4 **Future Directions**

The complex nature of consumptive coping needs to be clearly understood. The current research serves as a solid foundation for more comprehensive and conceptual understanding of the perceived functions or motives that may underlie this coping strategy. However there are many avenues for future research into this phenomenon.

5.4.1 **Refinement and revision of the CCQ.** Although as it stands the CCQ is a reliable and valid measure, it would certainly benefit from further analysis. An important next step would be to reexamine the reliability, validity and factor structure of the 15-item CCQ. The factor structure that was revealed in this research should be examined among a random population sample in order to examine the extent to which possible sampling biases (e.g., self-selecting bias) influenced the current factor
structure. In addition, as the current research was among the first of its kind, the factor structure of the functions of consumptive coping requires further analysis. It may be useful to conduct an EFA with orthogonal rotation (e.g., varimax) on the data set from Study 1, or on data collected from a new sample. Orthogonal rotations often produce attractive solutions, and although they assume that the factors are uncorrelated (Pett et al., 2003), such approaches in future examination of the CCQ may be valuable and reveal findings beyond those uncovered in the current research. It may also be worthwhile to re-examine the 20-item CCQ, to determine whether the five items that were removed as a result of the CFA require deletion among another sample in order to satisfy criteria for adequate model fit.

The development of norms for the CCQ is also an important aspect of future scale development. Norms provide a frame of reference for the meaning of a scales score (Spector, 1992). If the CCQ was examined among a large sample that was representative of the general population, this could assist with determining the nature of this phenomenon as it appears in the general public.

The CCQ would also benefit from validation among several specific samples. Multi-group CFA’s that examine measurement/factorial invariance of the CCQ may reveal how these constructs, the functions of consumptive coping as measured by the CCQ, are captured across different groups. For example, using cross-cultural samples could determine whether consumptive coping and the functions served by this coping strategy are culturally bound. It has been suggested that culture is relevant to coping as a force that influences both the individual and their environment (Chun, Moos, & Cronkite, 2006). A study by Wong et al. (2009) found that Australian students tended to engage in substance use as a coping strategy to a significantly greater degree than Singaporean students. In fact, Australians scored significantly higher on all coping
strategies (as measured by the Brief Cope, Carver, 1997) with the exception of religious coping. The results of Wong et al.’s study imply cultural specific differences on coping, whereby Singaporean students were characterised by a general apathy or non-active attitude about coping with stress compared to their Australian counterparts. In the context of the current research, it is proposed that there may be cultural differences in consumptive coping that are worthy of examination in future research.

It is possible that consumptive coping that incorporates cigarettes, alcohol and/or drugs could be more prevalent in cultures where drinking alcohol or using drugs is more commonplace. Further, as differences on consumption of food and caffeine was not examined by the questionnaire used in the study by Wong et al., this could also be an important area for future research. Examination of how different cultures engage in consumptive coping (with research that incorporates all substances) may determine whether consumptive coping is used regardless of culture or if it is culturally contingent.

Although age was found to be only weakly associated with CCQ scores in Study 2, future research with a focus on consumptive coping and age may be useful, because of the restricted age of participants in Studies 1 and 2. This may assist with understanding the nature of consumptive coping across the lifespan, as age has been found to be related to stress and coping (Aldwin et al., 1996; Aldwin et al., 2007). In one such study conducted by Aldwin (1991), results of path analysis revealed that age had a direct effect on the use of escapist coping strategies as measured by the WOCS-R, which includes the item “tried to make myself feel better by eating, drinking, smoking, using drugs or medication etc.” Aldwin (1991) concluded that the observed effect may indicate that older adults were less inclined to utilise escapist coping strategies, possibly due to the knowledge based on experience that such strategies
tend to be ineffective. Future studies also need to explore consumptive coping among adolescents, to examine whether the functions endorsed by adults are similar to the reasons adolescents consume to cope to deal with stressors. Investigation of the CCQ across different age groups may therefore reveal similarities and/or disparities in consumptive coping and the perceived functions of this strategy.

It could also be useful to obtain information on consumptive coping among different socioeconomic groups. Not only has Socioeconomic Status (SES) been linked to coping, low SES individuals may be at greater health risk from unhealthy behaviours such as smoking or alcohol use (Krueger & Chang, 2008). The social vulnerability hypothesis asserts that the blend of unhealthy behaviours and high perceptions of stress may be especially risky among low SES individuals, who may have less resources to cope effectively with stress and may have a greater tendency to engage in unhealthy behaviours such as substance use (Krueger & Chang, 2008; Pampel & Rogers, 2004). Exploring whether there is an increased rate of consumptive coping and associated effects among individuals of low SES may assist with psychological interventions targeted at these individuals.

Examination of the CCQ among a clinical sample would also be worthwhile. There is evidence to suggest a link between the CCQ and depression, anxiety, and stress symptoms in Study 2. While the current research examined symptoms rather than diagnosed psychopathologies, it is possible that consumptive coping could serve as a transdiagnostic variable if it features consistently across a variety of disorders. Although previous research has not examined the transdiagnostic qualities of consumptive coping specifically, the observed associations with symptoms of anxiety and depression in Study 2 may suggest that consumptive coping has transdiagnostic effects. Furthermore, avoidance behaviours have been proposed as transdiagnostic
variables or practices that are common across psychopathologies in past research (Mansell, Harvey, Watkins, & Shafran, 2009). Without further research, the claim that consumptive coping could be a transdiagnostic variable is purely speculative, and warrants further investigation to determine the prevalence of this strategy among clinical samples and across a range of psychological disorders.

Another avenue for reevaluation of the CCQ in the future could incorporate focused examination of the self-punishment items that were included in the initial item pool. While these items were excluded from the current analyses due to lack of endorsement, they were still rated as functions that were at least *moderately true* for approximately 10% of participants in Study 1. This finding suggests that consumptive coping does serve this function for some individuals, perhaps those more vulnerable, with inward focused self-destructive tendencies. Detailed examination of the characteristics of individuals that consume to cope as a means of self-punishment may yield greater understanding of this potential function of consumptive coping beyond what was achieved in this research.

5.4.2 Alternative assessment of consumptive coping. These data obtained by the CCQ are useful, however it may also be valuable to examine consumptive coping via methods other than self-report scales. This would enable researchers to examine consumptive coping through alternative methods, and compare findings with the CCQ. For example, assessment methods such as diary reports, ecological momentary assessments (sampling of behaviour in real time in natural settings), or qualitative interviews (e.g., to investigate the functions of consumptive coping inductively), may reveal knowledge into the functions of consumptive coping that was not captured by the current self-report approach.
Laboratory experiments where stressful conditions/events are induced could also be utilised in future consumptive coping research. Indeed, previous research has incorporated easy versus hard anagram tasks in experimental stress inducing studies that examine stress precipitated eating (Zellner et al., 2006; Zellner et al., 2007). Future research may wish to incorporate a range of substances in such experimental studies. Examining whether direct experimental manipulation of stress leads to consumptive coping, and being able to examine the functions that underlie this strategy in real-time would be worthwhile.

Ecological momentary assessments or daily diary reporting could allow for explicit examination of the temporal boundaries of consumptive coping. This approach may assist with investigating whether the use of consumptive coping differs according to certain stages of a stressor. For example, such research could investigate whether consumptive coping tends to occur in immediate response to a stressor, and is steady throughout, or occurs as more of a delayed response to a stressful event.

Assessment of consumptive coping that is of a longitudinal nature may also be constructive. Research of this nature may provide information about the consistency with which this coping strategy is used across various situations. In such studies, the CCQ could be administered tri monthly for a year, or for an extended period of time, in order to obtain some insight into the consistency that individuals use consumptive coping across different stressors.

Future assessment of consumptive coping may also benefit from gathering more detailed information regarding the substances that were consumed to cope. This could include an open-ended question that asks exactly what substances were consumed to cope. Such an approach may identify whether specific types of substances beyond those identified by the five categories utilised in this research
(food, caffeine, cigarettes, alcohol and other drugs) are linked to the perceived functions of consumptive coping. Future research could also examine what quantity of substances was typically consumed when consumption occurred as a coping strategy. Collecting such information may enhance current understanding of consumptive coping, and may also assist with the identification of those individuals who may be at risk from using this strategy in a potentially maladaptive way (e.g., individuals who report they consume large quantities of alcohol to cope). It is acknowledged that while some individuals may apply consumptive coping in an adaptive way (and future research would benefit from examining this too), future research could also examine the individuals who utilise it in a maladaptive way.

While the current research was not primarily concerned with what substance was consumed, but rather with the idea that increased consumption was associated with a coping function or motive, future research could adapt the CCQ to better examine “use” of substances in the context of consumptive coping.

Another approach to future measurement of consumptive coping may involve modification of the instructions of the CCQ to focus on individual substances. One method to do so could request that the core item pool of the CCQ is responded to separately for each substance that was consumed as a coping strategy for a recent stressful event. Alternatively, individuals could be directed to respond to the supplementary question of the CCQ in its current state, and then answer the core item pool of the CCQ in regard to the substance they consumed the most to help themselves cope. If such research was conducted it might be possible to develop further insight into the substance-function link associated with consumptive coping.

Overall, it is recognised that further research into consumptive coping should include efforts to reach a consensus regarding the most accurate and comprehensive
way to measure this phenomenon. Despite the thorough and methodical construction of the CCQ, it is possible that this measure is not exhaustive, and there may be aspects of consumptive coping that were not adequately captured by the current research. There remains much to learn about this complex coping strategy.

5.4.3 Expanding the scope of consumptive coping. Future research into consumptive coping could also examine dimensions of consumption that were not included in the current definition of consumptive coping. Such investigations could examine consumption that remained stable during the stressful event, yet was perceived to serve coping functions. As previously mentioned, the responses of some participants in Study 2 indicated that consumption as usual was perceived to serve the functions of consumptive coping. This would extend the conceptual boundaries of consumptive coping as operationalised in the current research, which was defined by an increase in consumption that was associated with the intent to cope.

Reduced or restricted consumption as a coping strategy could also be examined in future research. A number of individuals that participated in the current research reported that consumption decreased during their nominated stressful event. The reasons that consumption decreased could not be ascertained from the current analyses, so it could be worthwhile to examine whether such behaviour was part of a coping strategy, and what perceived functions it served. Decreases in consumptive coping behaviour could comprise the opposite end of the spectrum to increased consumptive coping, perhaps serving similar or distinct functions. Decreased consumption that was intentionally restricted could even be related to self-punishment. It is also likely that decreases in consumptive behaviour when stressed are associated with physiological affects of stress such as loss of appetite. Alternatively, decreases in consumption may be associated with self-care, where an
individual reduces smoking or drinking alcohol for example to better look after themselves during the stressful event.

It could be suggested that a broader perspective of consumptive coping, inclusive of different patterns of consumption that occur when coping with stressful events, is worthy of investigation in future research. However, whether consumption that remained stable or decreased is within the spectrum of consumptive coping or constitutes distinct yet related phenomenon, remains to be established.

5.4.4 Consumptive coping and transactional theory. The current research explored consumptive coping with elements of Lazarus and Folkman’s (1984) transactional model (e.g., appraisals). Future research may benefit from investigating how other features of this model relate to consumptive coping and the functions served by this strategy. For instance it may be useful to examine and compare the use of consumptive coping across certain types of stressful events (e.g., work related stressors, family stressors, etc). It may also be interesting to examine consumptive coping among varying social contexts or resources (e.g., level of social support). It could also be constructive to examine how consumptive coping relates to various other coping strategies, beyond those that were examined in the current thesis.

Transactional theory also posits that person variables, such as dispositions, influence the process of coping. Investigating the influence of personality on consumptive coping may be yet another opportunity to understand characteristics of individuals who consume to cope. As mentioned previously, personality has been related to coping as a variable that influences how individuals adapt to stress (Carver & Connor-Smith, 2010). Examination of the Big Five personality factors (McCrae & Costa, 1987), particularly neuroticism, could assist in determining the role of personality in consumptive coping. Consuming to cope could also be examined with variables from
revised versions of Lazarus and Folkman’s original model of coping, such as positive emotions and meaning focused coping from Folkman’s (1997) adaptation.

The perceived functions of consumptive coping, as measured by the CCQ, are an additional component to examine within transactionally informed analyses of consumptive coping. Based on the findings of the current research, future research could investigate the perceived functions of other coping strategies, particularly those involving health behaviours (e.g., exercise). The need for research in this vein has also been proposed by Park and Iaocca (2014). Guided by the relationships that were found in the current research, and the framework of transactional theory, there is an array of possibilities for variables that could be examined in conjunction with consumptive coping in future efforts that aim to better understand this coping strategy, or others.

**5.4.5 Summary of future directions.** The work undertaken in the current thesis has highlighted numerous avenues for research into consumptive coping. Future endeavours may focus on refinement of the CCQ itself, and assess consumptive coping via alternative methods. It may also be worthwhile to expand the conceptual boundaries of consumptive coping and subsequently examine consumption that was stable or decreased in the context of coping. Future research could also examine consumptive coping with other variables informed by Lazarus and Folkman’s (1984) transactional model. This research has produced a solid foundation that serves to not only enhance an understanding of consumptive coping, but also provides various directions for future investigations.
5.5 Conclusion

How an individual responds to adversity in life is intertwined with the coping strategies they employ. This in turn has the capacity to affect one’s mind and body. It is therefore somewhat surprising that consumptive coping, a unique coping strategy that is directly linked to health behaviours, has received minimal dedicated attention in previous research. This thesis presents an original approach towards understanding and measuring consumptive coping. However, the leading contribution of the CCQ is its capacity to determine the perceived coping functions that are served by increased consumption. It was found that consumptive coping may facilitate a time-out from the stressful event, be a means by which to relieve unpleasant physical sensations that may arise, be the catalyst by which an individual can escape unpleasant thoughts and emotions experienced throughout the stressful event, or improve their general internal state during this time.

Throughout the studies conducted the CCQ was found to possess satisfactory factor structure and internal properties, namely internal consistency reliability, convergent and divergent validity. Furthermore, individuals who consume to cope were differentiated from individuals who do not consume to cope on multiple variables (e.g., avoidance coping, depressive symptoms). This suggests that individuals who consume to cope may experience distinctive unpleasant internal experiences when compared to non-consumptive coping counterparts. Further exploration of the CCQ is necessary to expand upon the current findings and to verify the consistency of the factor structure and psychometric properties. Despite the aforementioned limitations, this thesis offers insight into consumptive coping. The CCQ, embedded in a transactional/process approach to coping measurement, is able
to inform a more comprehensive understanding of the roles of consumption in the coping process. It also has strong potential as a valuable measure of consumptive coping in research, assessment, and psychotherapeutic activities.

The ways in which an individual copes with stressful events is crucial in understanding the link between stress and health. This may especially be the case for coping strategies that have the direct capacity to damage health. Indeed, when it comes to coping strategies, is it possible that no other is more capable of being detrimental to our health than consumptive coping. Consuming to cope is not sustainable, largely because it has the capacity to create additional health related stressors. Nevertheless, it is utilised because its very nature facilitates avoidance from the stressor itself, and it assists with one’s internal adaptation to stressful events. It is clear from this research that some people perceive that substances have therapeutic qualities, which help them to de-stress or cope during a stressful event. This notion can now be systematically captured and is tangible through scores on the CCQ. The perceived functions, as identified in this thesis, may further elucidate the role of consumption in the process of coping. This phenomenon has not achieved the attention it warrants in coping research, however the findings of the current thesis represent a step forward.
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Appendix A

90 items generated for the initial item pool

Scale: Escape/soothe emotions
1. To get away from emotions that bothered me
2. To cover up my true emotions
3. To make distressing emotions go away
4. To avoid feeling my emotions
5. To avoid emotions I didn’t want to have
6. To avoid facing my negative emotions
7. To escape from the pain of negative emotions
8. To escape unpleasant emotions
9. To escape my low mood
10. To avoid dealing with the emotions bottled up inside me
11. To stop negative emotions from overwhelming me
12. To disconnect from my emotions
13. To suppress strong emotions I didn’t like feeling
14. To change how I felt emotionally
15. To lift my mood
16. To feel happier
17. To cheer myself up
18. To comfort myself
19. To soothe emotional pain
20. To soothe difficult emotions

Scale: Physical relief
21. To reduce tension in my body
22. To stop tension from building up in my body
23. To help relieve headaches
24. To help ease physical discomfort
25. To soothe my upset stomach
26. To settle the butterflies in my stomach
27. To ease unpleasant physical sensations
28. To relieve intense physical sensations
29. To get relief from pain in my body
30. To help relax my muscles
31. To help slow down my breathing
32. To relax my body
33. To help me rest
34. To calm my body down
35. To soothe my body
36. To feel pleasant physical sensations
37. To help my body feel better
38. To change how I felt in my body
39. To numb my body
40. To help me sleep

Scale: Distraction from thoughts
41. To distract myself from thoughts about the situation
42. To distract my mind from stressful thoughts
43. To stop my mind from racing
44. To stop my thoughts from overwhelming me
45. To stop myself from thinking about the problem
46. To avoid thoughts that bother me
47. To avoid facing difficult thoughts about the situation
48. To avoid being carried away by my thoughts
49. To think about something other than the stressful situation
50. To change the focus of my attention
51. To keep my mind busy with something else
52. To think about something pleasant
53. To get away from my unpleasant thoughts
54. To take my mind off the situation
55. To get the stressful situation out of my head
56. To forget about the problem
57. To escape from stressful thoughts
58. To silence the thoughts in my head
59. To help turn off my thoughts
60. To push away stressful thoughts

**Scale: Time-out**

61. To take some time-out to regroup
62. To take some time-out to get back on track
63. To give myself some down-time
64. To get a time-out from the situation
65. To have some time for myself
66. To have some time to think
67. To take some time-out to reflect
68. To take some time-out to de-stress
69. To take some time-out to treat myself
70. To take some time-out to pull myself together
71. To give myself a break from the situation
72. To get away from the situation for a while
73. To create some space between myself and the situation
74. To have some time to clear my mind
75. To get some peace away from the situation
76. To take a moment for myself
77. To avoid dealing with the situation right away
78. To take some time-out to escape reality
79. To take some time to figure things out
80. To have some “me” time

**Scale: Self-punishment**

81. To teach myself a lesson for being involved in the situation
82. To punish myself for my role in the situation
83. To make myself feel worse because I deserved it
84. To cause harm to myself as punishment
85. To feel pain because I messed up
86. To punish myself for causing the situation
87. To hurt myself because the situation was my fault
88. To make myself feel bad because I was at fault in the situation
89. To punish myself for my wrongdoing in the situation
90. To punish myself because I was to blame for the situation
Appendix B

Supplementary questions, instructions and measurement format for the Consuming to Cope Questionnaire

In life, different situations can be stressful. Within the past month, think about the last time you felt the most stressed? Please briefly describe this situation that caused (or still causes) you stress…

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

How stressful was this situation for you? Please select one number.

<table>
<thead>
<tr>
<th>A little bit stressful</th>
<th>Moderately stressful</th>
<th>Extremely stressful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

People react to stressful situations in many different ways. Some people find that the amount of food, caffeine, cigarettes, alcohol or other drugs they have, changes when they feel stressed. Thinking about what you did at the time of the stressful situation you just described, please select one response for each of the following statements.

Compared to when I don’t feel stressed, at the time of this stressful situation I…

<table>
<thead>
<tr>
<th></th>
<th>A lot less than usual</th>
<th>A bit less than usual</th>
<th>The same as usual/never</th>
<th>A bit more than usual</th>
<th>A lot more than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ate food…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Drank caffeine…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Smoked cigarettes…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Drank alcohol…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Took other drugs (e.g. ecstasy, painkillers, marijuana, etc)…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

If you selected 4 or 5 (a bit more/a lot more than usual) for any of the above statements, please continue on with the following questions. If you selected 1, 2, or 3 (a lot less than usual/a bit less than usual/the same as usual or never) for all of the above statements, please go to page ___.

Think about what you had more of (than usual) when you experienced your stressful situation. We are now interested in why you had more. Below is a list of some of the reasons people may have for eating food, drinking caffeine or alcohol, smoking cigarettes, or taking other drugs when they feel stressed.

Please select the number that best shows how much each reason applied to you, regardless of whether it worked or not.

It is ok to switch between food/caffeine/alcohol/cigarettes/other drugs as you go through the list - just answer how true each reason was for you whether it relates to all, some, or only one of the things you had more of than usual during your stressful situation.

I had food/caffeine/cigarettes/alcohol/other drugs in the course of the stressful situation I described earlier…

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all true of me</th>
<th>Moderately true of me</th>
<th>Extremely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>To get away from emotions that bothered me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Were there any other reasons that you had food, caffeine, cigarettes, alcohol, or other drugs over the course of this stressful situation *that are not mentioned above*? If so, please briefly describe them:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Appendix C

Item allocation form

Dear ____________,

The purpose of this letter is to invite you to participate in a test of content validity for the questionnaire I am developing as part of my PhD, under the supervision of Dr Helen Aucote and Dr Barbara Jones. Our questionnaire measures consumption of substances as a coping mechanism, and the items reflect different reasons/motives for consumption.

Attached is a list of the 90 items that comprise the initial item pool. Your task is to categorize each item under one of the scale headings provided. You can do this by placing an “X” in the box that corresponds with the scale you think the item belongs to. There is also a “don’t know” option, if you are unsure which scale an item belongs to.

Please feel free to make any comments about the items or suggest additional items.

Once you have finished, please return the form in the envelope provided to psychology reception.

We really appreciate your help, and thank you for taking the time to do this.

Kindest Regards,
Leah Duxbury, Dr Helen Aucote and Dr Barbara Jones.

Definitions of Scales/Factors

Escape/soothe emotions: Consumption motivated by the function it serves to alleviate the impact of unpleasant emotions. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to soothe, avoid, and escape difficult emotions. The purpose of consumption is to relieve unpleasant emotions that one experiences during a stressful situation.

Physical relief: Consumption motivated by the function it serves to reduce tension experienced in the body. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to ease the physical manifestations of stress. Consumption assists the body to relax and eases unpleasant somatic sensations experienced during a stressful event.

Distraction from thoughts: Consumption motivated by the function it serves to distract from thoughts about a stressor. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to direct attention away, or disengage, from stressful thoughts. Consumption interrupts thoughts that pertain to a stressful event.

Time-out: Consumption motivated by the function it serves to take a time-out from the situation in order to re-group ones internal resources. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to create a space away from the stressful event. Consumption generates this break or time out from the event for the individual.

Self-punishment: Consumption motivated by the function it serves to punish oneself. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs punishes the self for the role he/she had in the stressful situation. Consumption provides a means for reprimanding the self as a way to cope with the event.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Escape/ soothe emotions</th>
<th>Physical relief</th>
<th>Distraction from thoughts</th>
<th>Time-out</th>
<th>Self-punishment</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>To relax my body</td>
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<tr>
<td>To take some time-out to reflect</td>
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<tr>
<td>To distract my mind from stressful thoughts</td>
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<tr>
<td>To comfort myself</td>
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<tr>
<td>To have some time to think</td>
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<tr>
<td>To avoid dealing with the situation right away</td>
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<tr>
<td>To get away from emotions that bothered me</td>
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<tr>
<td>To distract myself from thoughts about the situation</td>
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<tr>
<td>To take some time-out to de-stress</td>
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<tr>
<td>To have some time for myself</td>
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<td>To punish myself for causing the situation</td>
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<tr>
<td>To create some space between myself and the situation</td>
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<tr>
<td>To help me rest</td>
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<td>To avoid facing my negative emotions</td>
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<tr>
<td>To avoid feeling my emotions</td>
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<tr>
<td>To stop my thoughts from overwhelming me</td>
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<tr>
<td>To help relieve headaches</td>
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<td></td>
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<tr>
<td>To have some time to clear my mind</td>
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<td></td>
</tr>
<tr>
<td>To take some time-out to escape reality</td>
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<tr>
<td>To take a moment for myself</td>
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<tr>
<td>To give myself a break from the situation</td>
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<tr>
<td>To stop my mind from racing</td>
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<tr>
<td>To suppress strong emotions I didn’t like feeling</td>
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</tr>
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<td>To punish myself for my wrongdoing in the situation</td>
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<td>To avoid being carried away by my thoughts</td>
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<td>To stop myself from thinking about the problem</td>
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<td>To stop negative emotions from overwhelming me</td>
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<td>To feel happier</td>
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<td>To teach myself a lesson for being involved in the situation</td>
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<td>To lift my mood</td>
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<td>To cause harm to myself as punishment</td>
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<td>To get relief from pain in my body</td>
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<td>To feel pain because I messed up</td>
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<td>To give myself some down-time</td>
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<td>To make myself feel worse because I deserved it</td>
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<td>To avoid facing difficult thoughts about the situation</td>
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<td>To take some time-out to get back on track</td>
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<td>To think about something pleasant</td>
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<td>To silence the thoughts in my head</td>
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<td>To take some time to figure things out</td>
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<td>To think about something other than the stressful situation</td>
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<td>To get away from the situation for a while</td>
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<td>To help relax my muscles</td>
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<td>To cheer myself up</td>
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<td>To take some time-out to treat myself</td>
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<td>To avoid dealing with the emotions bottled up inside me</td>
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<td>To cover up my true emotions</td>
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<td>To get the stressful situation out of my head</td>
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Please make any comments, suggest any refinements to the wording or content of items, or suggest additional items:
Appendix D

Construct relevance form

The purpose of this letter is to invite you to participate in a test of content validity for the questionnaire I am developing as part of my PhD, under the supervision of Dr Helen Aucote and Dr Barbara Jones, at the Australian Catholic University.

Our questionnaire measures consumption of substances as a coping mechanism, and the items reflect different reasons/motives for consumption (during a stressful situation).

Attached is a list of the 81 items that comprise the item pool, arranged under scale headings.

Your task is to evaluate how relevant you think each item is to what it intends to measure.

Feel free to make any additional comments. Please cross out any irrelevant items that do not reflect the content of the scales, suggest any refinements to the wording or content of items, or add any other items that you think would be relevant to the construct.

Once you have finished the task, please return the completed document in the reply paid envelope provided.

In appreciation of your time and feedback should you choose to participate.

Kindest Regards, Leah Duxbury, Dr Helen Aucote and Dr Barbara Jones.

Definitions of Scales/Factors

Escape/soothe emotions: Consumption motivated by the function it serves to alleviate the impact of unpleasant emotions. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to soothe, avoid, and escape difficult emotions. The purpose of consumption is to relieve unpleasant emotions that one experiences during a stressful situation.

Physical relief: Consumption motivated by the function it serves to reduce tension experienced in the body. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to ease the physical manifestations of stress. Consumption assists the body to relax and eases unpleasant somatic sensations experienced during a stressful event.

Distraction from thoughts: Consumption motivated by the function it serves to distract from thoughts about a stressor. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to direct attention away, or disengage, from stressful thoughts. Consumption interrupts thoughts that pertain to a stressful event.

Time-out: Consumption motivated by the function it serves to take a time-out from the situation in order to re-group ones internal resources. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs helps to create a space away from the stressful event. Consumption generates this break or time out from the event for the individual.

Self-punishment: Consumption motivated by the function it serves to punish oneself. An individual perceives that consumption of food, cigarettes, caffeine, alcohol or other drugs punishes the self for the role he/she had in the stressful situation. Consumption provides a means for reprimanding the self as a way to cope with the event.
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<tr>
<th>ITEM</th>
<th>High Relevance</th>
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<tbody>
<tr>
<td>To reduce tension in my body</td>
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<th>SCALE – Consumption of food/caffeine/cigarettes/alcohol/other drugs to distract from thoughts:</th>
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<td>ITEM</td>
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<tr>
<td>To distract myself from thoughts about the situation</td>
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<tr>
<td>To distract my mind from stressful thoughts</td>
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<td>To stop my mind from racing</td>
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<td>To avoid being carried away by my thoughts</td>
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## SCALE – Consumption of food/caffeine/cigarettes/alcohol/other drugs to take a time-out:

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<td>To take some time-out to reflect</td>
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<td>To create some space between myself and the situation</td>
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<td>To have some time to clear my mind</td>
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<td>To get some peace away from the situation</td>
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## SCALE – Consumption of food/caffeine/cigarettes/alcohol/other drugs to escape/soothe emotions:

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<tr>
<td>To avoid facing my negative emotions</td>
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<tr>
<td>To escape from the pain of negative emotions</td>
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<tr>
<td>To escape unpleasant emotions</td>
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<tr>
<td>To escape my low mood</td>
<td></td>
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<tr>
<td>To avoid dealing with the emotions bottled up inside me</td>
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<tr>
<td>To stop negative emotions from overwhelming me</td>
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<tr>
<td>To disconnect from my emotions</td>
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<td></td>
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<tr>
<td>To suppress strong emotions I didn’t like feeling</td>
<td></td>
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<tr>
<td>To change how I felt emotionally</td>
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<tr>
<td>To lift my mood</td>
<td></td>
<td></td>
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<tr>
<td>To feel happier</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To cheer myself up</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To comfort myself</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To soothe emotional pain</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To soothe difficult emotions</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ITEM</td>
<td>High Relevance</td>
<td>Moderate Relevance</td>
<td>Low Relevance</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>To teach myself a lesson for being involved in the situation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To punish myself for my role in the situation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To make myself feel worse because I deserved it</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To cause harm to myself as punishment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To feel pain because I messed up</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To punish myself for causing the situation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To hurt myself because the situation was my fault</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To make myself feel bad because I was at fault in the situation</td>
<td></td>
<td></td>
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<tr>
<td>To punish myself for my wrongdoing in the situation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To punish myself because I was to blame for the situation</td>
<td></td>
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</tbody>
</table>

Please make any comments, suggest any refinements to the wording or content of items, or suggest additional items:
Appendix E

Content validity questions used in the pilot study

We want to see how easy it is to do this questionnaire, so please tell us if you found anything difficult. Your feedback is very important to us, and remember, this is completely anonymous so no one will be able to identify your answers. You just answered some questions about a stressful situation that occurred in the previous month. Please answer the following with those questions in mind. You can go back and look at the questions if you need to.

1. Were the instructions clear? □ Yes □ No

2. If no, what was unclear?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

3. Was it easy to understand how to answer? □Yes □No

4. If no, what was difficult to answer?

_____________________________________________________________________
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5. Are there any other comments you would like to make?

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Again, we are interested in how easy it is to do this questionnaire, so please tell us if you found anything difficult. Your feedback is very important to us, and remember, this is completely anonymous so no one will be able to identify your answers. You just answered some questions about the amount of food, caffeine, cigarettes, alcohol or other drugs you had during the time of the stressful situation you described earlier. Please answer the following with those questions in mind. You can go back and look at the questions if you need to.

1. Were the instructions clear?  ☐ Yes  ☐ No
2. If no, what was unclear?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

3. Were the items easy to read?  ☐ Yes  ☐ No
4. If no, what made the items difficult to read?

____________________________________________________________________
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5. Was it easy to understand how to answer?  ☐ Yes  ☐ No
6. If no, what was difficult to answer?

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7. Are there any other comments you would like to make?

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Now we want to see how easy it was to do that last part of the questionnaire, so please tell us if you found anything difficult. Your feedback is very important to us, and remember, this is completely anonymous so no one will be able to identify your answers. You just answered some questions about why you had more food, caffeine, alcohol, cigarettes or other drugs when you felt stressed. Please answer the following with those questions in mind. You can go back and look at the questions if you need to.

1. Were the instructions clear?  ☐ Yes ☐ No

2. If no, what was unclear?

3. Were the items easy to read?  ☐ Yes ☐ No

4. If no, what made the items difficult to read?

5. Was it easy to understand how to answer? ☐ Yes ☐ No

6. If no, what was difficult to answer?

7. Are there any other comments you would like to make?

8. Overall, did the questionnaire seem too long? ☐ Yes ☐ No
Appendix F

Ethics approval form for project V2010 116

Human Research Ethics Committee

Committee Approval Form

Principal Investigator/Supervisor: Dr. Helen Aucote   Melbourne Campus
Co-Investigators: Dr Barbara Jones   Melbourne Campus
Student Researcher: Leah Duxbury   Melbourne Campus

Ethics approval has been granted for the following project:
Consuming to cope: Development of a measure
for the period: 11/11/2010-31/12/2014
Human Research Ethics Committee (HREC) Register Number: V2010 116

The following standard conditions as stipulated in the National Statement on Ethical Conduct in Research Involving Humans (2007) apply:

(i) that Principal Investigators / Supervisors provide, on the form supplied by the Human Research Ethics Committee, annual reports on matters such as:
   - security of records
   - compliance with approved consent procedures and documentation
   - compliance with special conditions, and

(ii) that researchers report to the HREC immediately any matter that might affect the ethical acceptability of the protocol, such as:
   - proposed changes to the protocol
   - unforeseen circumstances or events
   - adverse effects on participants

The HREC will conduct an audit each year of all projects deemed to be of more than low risk. There will also be random audits of a sample of projects considered to be of negligible risk and low risk on all campuses each year.

Within one month of the conclusion of the project, researchers are required to complete a Final Report Form and submit it to the local Research Services Officer.

If the project continues for more than one year, researchers are required to complete an Annual Progress Report Form and submit it to the local Research Services Officer within one month of the anniversary date of the ethics approval.

Signed: ................................................ Date: ........11.11.2010...........
(Research Services Officer, Melbourne Campus)
Appendix G

Information letter for pilot study

INFORMATION LETTER TO PARTICIPANTS

TITLE OF PROJECT: Consuming to cope
STAFF SUPERVISORS: Dr Helen Aucote and Dr Barbara Jones
STUDENT RESEARCHER: Leah Duxbury
COURSE ENROLLED: Masters of Psychology (Clinical)/PhD

Dear Participant,

You are invited to participate in a research project looking at some of the different reasons that people consume food, caffeine, alcohol, cigarettes and/or other drugs to help themselves cope with stress, difficulties or problems in life. If you are aged eighteen or older, you are eligible to participate in the study. Please take time to read the following information and decide whether or not you would like to take part in completing the questionnaires. If you do choose to participate in this study, you may gain a heightened awareness of yourself. You will also be contributing to research that may be able to help others in the community.

It is not anticipated that you will experience any inconvenience and/or discomfort in completing the questionnaires. However, some of the questions involved are of a personal nature and ask you to reflect on times in your life when you had to cope with something stressful. In the unlikely event that you experience any emotional discomfort during or after the completion of the questionnaire, or are unduly concerned about any feelings that arise, you are encouraged to contact one of the following: Lifeline telephone counselling service on 13 11 14, your local Doctor/GP, or the APS referral service for local psychologists on 1800 333 497 or the “find a psychologist” link on their website www.psychology.org.au.

Participation in this research requires the completion of an online questionnaire, which should take you approximately 20 minutes. Being in this study is voluntary and you are under no obligation to consent to participate. The questionnaires can be completed online, at a time of your own convenience, at https://www.psychdata.com/s.asp?SID=xxxxxx.

If you do not want to take part, or you change your mind at any time during your participation in this study, you do not need to give a reason for this. Participation is entirely voluntary, so if you wish to withdraw participation simply close your browser and do not submit the online questionnaire. Withdrawal will not disadvantage you in any way, as respondents will not be individually monitored, there will be no way of knowing the name of anyone who did or did not complete the questionnaires. However, once the questionnaires have been submitted to the project, it will not be possible to delete your data from the study, because there is no way of identifying individual data.
Once the study has been completed, the Student Researcher will write a report to be published as a PhD thesis as part of the qualification of a combined Masters of Clinical Psychology/PhD postgraduate degree. It is possible that the results of the study may be published in a scientific journal, however you will not be identifiable, as only group data will be submitted. The questionnaires will not ask for your name, instead, each will be allocated a number upon receipt after completion. Results from completed questionnaires will be kept in a secure computer, in a secure location on campus at the university.

If you have any questions about this research project, before or after participating, please contact the Staff Supervisors Dr Helen Aucote on (03) 9953 3013 or Dr Barbara Jones on (03) 9953 3464 at the Australian Catholic University’s school of Psychology, Melbourne campus. Alternatively you could contact the Student Researcher Leah Duxbury at tb0028407@myacu.edu.au.

Feedback about the study will be available upon request. However as stated earlier, due to issues of confidentiality, only aggregate results will be available.

This study has been approved by the Human Research Ethics Committee at the Australian Catholic University (V2010 116).

In the event that you have any complaint or concern about the way you have been treated during this study, or if you have any query that the Supervisor and Student Researcher have not been able to satisfy, you may write to the Chair of the Human Research Ethics Committee care of the nearest branch of the Research Services Office:

VIC: Chair, HREC
C/- Research Services
Australian Catholic University
Melbourne Campus
Locked Bag 4115
FITZROY VIC 3065
Tel: 03 9953 3158
Fax: 03 9953 3315

Any complaint or concern will be treated in confidence and fully investigated, and you will be informed of the outcome.

If you are willing to participate in this project, you should keep a copy of this information for your records, and know that your support for the research project is greatly appreciated!

Principal Supervisor: Co-Supervisor: Student Researcher:
Dr Helen Aucote Dr Barbara Jones Leah Duxbury
Appendix H

Demographics questions

Age: _________

Sex:
☐ Male
☐ Female

Education Level:
☐ High school
☐ Tafe
☐ Undergraduate university degree
☐ Post graduate university degree

Employment status (select as many as appropriate):
☐ Full time student
☐ Part time student
☐ Full time work
☐ Part time work
☐ Unemployed
☐ Stay at home parent or carer

Relationship status:
☐ Single
☐ Single (divorced)
☐ Single (widowed)
☐ In a relationship living not with partner
☐ In a relationship living with partner
☐ Married

Place of birth:
☐ Australia
☐ Overseas
Appendix I

Revised version of the supplementary Likert-type scale of the CCQ

<table>
<thead>
<tr>
<th>Activity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Ate food…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<tr>
<td>Drank caffeine…</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<td>Smoked cigarettes…</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<td>Drank alcohol…</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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<tr>
<td>Took other drugs (e.g. ecstasy, painkillers, marijuana, etc)…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>N/A</td>
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Appendix J

Version of CCQ utilised in Study 1

In life, different situations can be stressful. Within the past month, think about the last time you felt the most stressed? Please briefly describe this situation that caused (or still causes) you stress…

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_____________________________________________________________________

How stressful was this situation for you? Please select one number.

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<thead>
<tr>
<th></th>
<th>A little bit stressful</th>
<th>Moderately stressful</th>
<th>Extremely stressful</th>
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<td>1</td>
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<td>4</td>
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People react to stressful situations in many different ways. Some people find that the amount of food, caffeine, cigarettes, alcohol or other drugs they have, changes when they feel stressed. Thinking about what you did at the time of the stressful situation you just described, please select one response for each of the following statements.

Compared to when I don’t feel stressed, at the time of this stressful situation I…

<table>
<thead>
<tr>
<th></th>
<th>A lot less than usual</th>
<th>A bit less than usual</th>
<th>The same as usual</th>
<th>A bit more than usual</th>
<th>A lot more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ate food…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>Drank caffeine…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Smoked cigarettes…</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Drank alcohol…</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>Took other drugs (e.g. ecstasy, painkillers, marijuana, etc)…</td>
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</tbody>
</table>

If you selected 4 or 5 (a bit more/a lot more than usual) for any of the above statements, please continue on with the following questions. If you selected 1, 2, or 3 (a lot less than usual/a bit less than usual/the same as usual or never) for all of the above statements, please go to page __.
Think about what you had more of (than usual) when you experienced your stressful situation. We are now interested in why you had more.

Below is a list of some of the reasons people may have for eating food, drinking caffeine or alcohol, smoking cigarettes, or taking other drugs when they feel stressed.

Please select the number that best shows how much each reason applied to you, regardless of whether it worked or not.

It is ok to switch between food/caffeine/alcohol/cigarettes/other drugs as you go through the list - just answer how true each reason was for you whether it relates to all, some, or only one of the things you had more of than usual during your stressful situation.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all true of me</th>
<th>Moderately true of me</th>
<th>Extremely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>To relax my body</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time-out to reflect</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To distract my mind from stressful thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To comfort myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To have some time to think</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To get away from emotions that bothered me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To distract myself from thoughts about the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time-out to de-stress</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To punish myself for causing the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To create some space between myself and the situation</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To avoid facing my negative emotions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To punish myself for my wrongdoing in the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To stop my thoughts from overwhelming me</td>
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<td>3</td>
</tr>
<tr>
<td>To help relieve headaches</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To have some time to clear my mind</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Action</td>
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<td>Moderately true of me</td>
<td>Extremely true of me</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
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<td>----------------------</td>
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<td>3 4 5</td>
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<tr>
<td>To take a moment for myself</td>
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<td>3 4 5</td>
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<tr>
<td>To help slow down my breathing</td>
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<td>3 4 5</td>
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<tr>
<td>To give myself a break from the situation</td>
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<td>2</td>
<td>3 4 5</td>
</tr>
<tr>
<td>To stop my mind from racing</td>
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<td>3 4 5</td>
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<tr>
<td>To suppress strong emotions I didn’t like feeling</td>
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<td>3 4 5</td>
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<td>To change how I felt emotionally</td>
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<td>3 4 5</td>
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<tr>
<td>To avoid being carried away by my thoughts</td>
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<td>3 4 5</td>
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<tr>
<td>To reduce tension in my body</td>
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<td>3 4 5</td>
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<tr>
<td>To have some fun</td>
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<td>3 4 5</td>
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<tr>
<td>To punish myself for my role in the situation</td>
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<td>3 4 5</td>
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<td>To feel pleasant physical sensations</td>
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<tr>
<td>To feel happier</td>
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<td>2</td>
<td>3 4 5</td>
</tr>
<tr>
<td>To stop tension from building up in my body</td>
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<td>2</td>
<td>3 4 5</td>
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<tr>
<td>To disconnect from my emotions</td>
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<td>3 4 5</td>
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<td>To stop myself from thinking about the problem</td>
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<td>3 4 5</td>
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<tr>
<td>To stop negative emotions from overwhelming me</td>
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<td>3 4 5</td>
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<tr>
<td>To change how I felt in my body</td>
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<td>3 4 5</td>
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<td>To teach myself a lesson for being involved in the situation</td>
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<td>3 4 5</td>
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<tr>
<td>To lift my mood</td>
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<td>2</td>
<td>3 4 5</td>
</tr>
<tr>
<td>To cause harm to myself as punishment</td>
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<td>2</td>
<td>3 4 5</td>
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<tr>
<td>To avoid thoughts that bother me</td>
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<td>3 4 5</td>
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<tr>
<td>To soothe emotional pain</td>
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<td>3 4 5</td>
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<td>Activity</td>
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<td>Moderately true of me</td>
<td>Extremely true of me</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<td>-----------------------</td>
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<tr>
<td>To get relief from pain in my body</td>
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<td>To punish myself because I was to blame for the situation</td>
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<td>3</td>
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<tr>
<td>To take my mind off the situation</td>
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<td>3</td>
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<tr>
<td>To feel pain because I messed up</td>
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<td>3</td>
</tr>
<tr>
<td>To give myself some down-time</td>
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<td>3</td>
</tr>
<tr>
<td>To make myself feel worse because I deserved it</td>
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<td>3</td>
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<tr>
<td>To feel free</td>
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<td>To escape my low mood</td>
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<tr>
<td>To avoid facing difficult thoughts about the situation</td>
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<td>3</td>
</tr>
<tr>
<td>To make myself feel bad because I was at fault in the situation</td>
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<tr>
<td>To silence the thoughts in my head</td>
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</tr>
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<td>To relieve intense physical sensations</td>
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<td>To take some time-out to get back on track</td>
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<tr>
<td>To forget about the problem</td>
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<tr>
<td>To help my body feel better</td>
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<tr>
<td>To think about something pleasant</td>
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<tr>
<td>To get away from the situation for a while</td>
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<tr>
<td>To numb my body</td>
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<td>3</td>
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<tr>
<td>To take some time to figure things out</td>
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<tr>
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<tr>
<td>To help turn off my thoughts</td>
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<tr>
<td>To soothe difficult emotions</td>
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<td>To think about something other than the stressful situation</td>
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<td>To have some “me” time</td>
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<td>Reason</td>
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</tr>
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<td>To take some time-out to treat myself</td>
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<tr>
<td>To help ease physical discomfort</td>
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<td>To avoid dealing with the emotions bottled up inside me</td>
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<tr>
<td>To help relax my muscles</td>
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<td>3</td>
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<td>To cheer myself up</td>
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<tr>
<td>To avoid emotions I didn’t want to have</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time-out to pull myself together</td>
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<td>3</td>
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<tr>
<td>To soothe my body</td>
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<tr>
<td>To escape unpleasant emotions</td>
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<td>3</td>
</tr>
<tr>
<td>To feel uninhibited</td>
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<tr>
<td>To soothe my upset stomach</td>
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<td>3</td>
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<td>To get a time-out from the situation</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To hurt myself because the situation was my fault</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To make distressing emotions go away</td>
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<td>3</td>
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<tr>
<td>To ease unpleasant physical sensations</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To get the stressful situation out of my head</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To keep my mind busy with something else</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To escape from the pain of negative emotions</td>
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<td>3</td>
</tr>
<tr>
<td>To take some time-out to regroup</td>
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<td>3</td>
</tr>
<tr>
<td>To get some peace away from the situation</td>
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</tbody>
</table>
Appendix K

Information letter for Study 1

INFORMATION LETTER TO PARTICIPANTS

TITLE OF PROJECT: Consuming to cope
STAFF SUPERVISORS: Dr Helen Aucote and Dr Barbara Jones
STUDENT RESEARCHER: Leah Duxbury
COURSE ENROLLED: Masters of Psychology (Clinical)/PhD

Dear Participant,

You are invited to participate in a research project looking at some of the different reasons that people consume food, caffeine, alcohol, cigarettes and/or other drugs to help themselves cope with stress, difficulties or problems in life. If you are aged eighteen or older, you are eligible to participate in the study. Please take time to read the following information and decide whether or not you would like to take part in completing the questionnaires. If you do choose to participate in this study, you may gain a heightened awareness of yourself. You will also be contributing to research that may be able to help others in the community. It is not anticipated that you will experience any inconvenience and/or discomfort in completing the questionnaires. However, some of the questions involved are of a personal nature and ask you to reflect on times in your life when you had to cope with something stressful. In the unlikely event that you experience any emotional discomfort during or after the completion of the questionnaire, or are unduly concerned about any feelings that arise, you are encouraged to contact one of the following: Lifeline telephone counselling service on 13 11 14, your local Doctor/GP, or the APS referral service for local psychologists on 1800 333 497 or the “find a psychologist” link on their website www.psychology.org.au.

Participation in this research requires the completion of an online questionnaire, which should take you approximately 30-45 minutes. Being in this study is voluntary and you are under no obligation to consent to participate. The questionnaires can be completed online, at a time of your own convenience, at https://www.psychdata.com/s.asp?SID=xxxxxx.

If you do not want to take part, or you change your mind at any time during your participation in this study, you do not need to give a reason for this. Participation is entirely voluntary, so if you wish to withdraw participation simply close your browser and do not submit the online questionnaire. Withdrawal will not disadvantage you in any way, as respondents will not be individually monitored, there will be no way of knowing the name of anyone who did or did not complete the questionnaires. However, once the questionnaires have been submitted to the project, it will not be possible to delete your data from the study, because there is no way of identifying individual data. If you are an ACU student participant, and provide your student ID in order to obtain course credit, this information will be forwarded the relevant Lecturer in Charge for granting of credit where eligible, but removed from data files prior to analysis.
Once the study has been completed, the Student Researcher will write a report to be published as a PhD thesis as part of the qualification of a combined Masters of Clinical Psychology/PhD postgraduate degree. It is possible that the results of the study may be published in a scientific journal, however you will not be identifiable, as only group data will be submitted. The questionnaires will not ask for your name, instead, each will be allocated a number upon receipt after completion. Results from completed questionnaires will be kept in a secure computer, in a secure location on campus at the university.

If you have any questions about this research project, before or after participating, please contact the Staff Supervisors Dr Helen Aucote on (03) 9953 3013 or Dr Barbara Jones on (03) 9953 3464 at the Australian Catholic University’s school of Psychology, Melbourne campus. Alternatively you could contact the Student Researcher Leah Duxbury at tb0028407@myacu.edu.au.

Feedback about the study will be available upon request. However as stated earlier, due to issues of confidentiality, only aggregate results will be available.

This study has been approved by the Human Research Ethics Committee at the Australian Catholic University (V2010 116).

In the event that you have any complaint or concern about the way you have been treated during this study, or if you have any query that the Supervisor and Student Researcher have not been able to satisfy, you may write to the Chair of the Human Research Ethics Committee care of the nearest branch of the Research Services Office:

VIC: Chair, HREC
C/- Research Services
Australian Catholic University
Melbourne Campus
Locked Bag 4115
FITZROY VIC 3065
Tel: 03 9953 3158
Fax: 03 9953 3315

Any complaint or concern will be treated in confidence and fully investigated, and you will be informed of the outcome.

If you are willing to participate in this project, you should keep a copy of this information for your records, and know that your support for the research project is greatly appreciated!

Principal Supervisor: Co-Supervisor: Student Researcher:
Dr Helen Aucote Dr Barbara Jones Leah Duxbury
Appendix L

Parallel analysis output (Watkins, 2000)

Number of variables: 66

<table>
<thead>
<tr>
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<th>Random Eigenvalue</th>
<th>Standard Error</th>
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</table>

Number of subjects: 499
Actual Eigenvalue obtained = 1.174

Note: Only the relevant section of the output is included here (table continued on).
Appendix M

Items deleted through EFA

**Items deleted at stage one:**
To comfort myself, to feel pleasant physical sensations, to settle the butterflies in my stomach, to feel uninhibited, to forget about the problem, to escape my low mood, to numb my body, to get away from emotions that bothered me, to get away from the situation for a while, to create some space between myself and the situation, to take some time out to de-stress, to get some peace away from the situation, to take some time out to treat myself, to relax my body, to distract myself from thoughts about the situation.

**Items deleted at stage two:**
To distract my mind from stressful thoughts, to forget about the problem, to stop my mind from racing.

**Items deleted at stage three:**
To stop negative emotions from overwhelming me, to suppress strong emotions I didn’t like feeling, to avoid dealing with the emotions bottled up inside me, to avoid facing my negative emotions, to stop myself from thinking about the problem, to escape from the pain of negative emotion, to soothe emotional pain, to help turn off my thoughts, to soothe difficult emotions, to get the stressful situation out of my head, to avoid being carried away by my thoughts, to change how I felt emotionally, to silence the thoughts in my head, to push away stressful thoughts, to think about something other than the stressful situation, to take my mind off the situation, to keep my mind busy with something else, to stop my thoughts from overwhelming me, to take some time out to pull myself together, to have some me time, to get a time out from the situation, to have some time to clear my mind, to give myself a break from the situation, to soothe my body, to help my body feel better, to calm my body down, to reduce tension in my body, to stop tension from building up in my body, to change how I felt in my body.
### Appendix N

Unrotated factor matrix of EFA

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<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
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</thead>
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<td>.031</td>
<td>-.066</td>
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<td>.0093</td>
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<td>.121</td>
<td>-.153</td>
</tr>
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<td>-.469</td>
<td>.009</td>
<td>-.155</td>
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<td>To think about something pleasant</td>
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<td>To cheer myself up</td>
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<td>.332</td>
<td>.172</td>
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<td>.089</td>
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<td>To help relax my muscles</td>
<td>.648</td>
<td>.223</td>
<td>-.347</td>
<td>.046</td>
</tr>
<tr>
<td>To avoid feeling my emotions</td>
<td>.640</td>
<td>-.472</td>
<td>-.013</td>
<td>-.087</td>
</tr>
<tr>
<td>To feel happier</td>
<td>.639</td>
<td>-.065</td>
<td>.328</td>
<td>.422</td>
</tr>
<tr>
<td>To relieve intense physical sensations</td>
<td>.638</td>
<td>.180</td>
<td>-.497</td>
<td>.023</td>
</tr>
<tr>
<td>To take some time-out to regroup</td>
<td>.636</td>
<td>.433</td>
<td>.174</td>
<td>-.290</td>
</tr>
<tr>
<td>To feel free</td>
<td>.634</td>
<td>.011</td>
<td>.196</td>
<td>.145</td>
</tr>
<tr>
<td>To give myself some down-time</td>
<td>.622</td>
<td>.376</td>
<td>.270</td>
<td>-.177</td>
</tr>
<tr>
<td>To get relief from pain in my body</td>
<td>.610</td>
<td>.077</td>
<td>-.512</td>
<td>.080</td>
</tr>
<tr>
<td>To lift my mood</td>
<td>.568</td>
<td>.152</td>
<td>.320</td>
<td>.446</td>
</tr>
<tr>
<td>To take some time-out to get back on track</td>
<td>.581</td>
<td>.490</td>
<td>.233</td>
<td>-.261</td>
</tr>
<tr>
<td>To take a moment for myself</td>
<td>.553</td>
<td>.401</td>
<td>.339</td>
<td>-.144</td>
</tr>
</tbody>
</table>

Four factors extracted. 4 iterations required.
**Appendix O**

Information letter for Study 2

**INFORMATION LETTER TO PARTICIPANTS**

**TITLE OF PROJECT:** Consuming to cope

**STAFF SUPERVISORS:** Dr Helen Aucote and Dr Barbara Jones

**STUDENT RESEARCHER:** Leah Duxbury

**COURSE ENROLLED:** Masters of Psychology (Clinical)/PhD

Dear Participant,

You are invited to participate in a research project looking at some of the different reasons that people consume food, caffeine, alcohol, cigarettes and/or other drugs to help themselves cope with stress, difficulties or problems in life. If you are aged eighteen or older, you are eligible to participate in the study. Please take time to read the following information and decide whether or not you would like to take part in completing the questionnaires. If you do choose to participate in this study, you may gain a heightened awareness of yourself. You will also be contributing to research that may be able to help others in the community.

It is not anticipated that you will experience any inconvenience and/or discomfort in completing the questionnaires. However, some of the questions involved are of a personal nature and ask you to reflect on times in your life when you had to cope with something stressful. In the unlikely event that you experience any emotional discomfort during or after the completion of the questionnaire, or are unduly concerned about any feelings that arise, you are encouraged to contact one of the following: Lifeline telephone counselling service on 13 11 14, your local Doctor/GP, or the APS referral service for local psychologists on 1800 333 497 or the “find a psychologist” link on their website www.psychology.org.au.

Participation in this research requires the completion of an online questionnaire, which should take you approximately 20-30 minutes. Being in this study is voluntary and you are under no obligation to consent to participate. The questionnaires can be completed online, at a time of your own convenience, at https://www.psychdata.com/s.asp?SID=xxxxxx.

If you do not want to take part, or you change your mind at any time during your participation in this study, you do not need to give a reason for this. Participation is entirely voluntary, so if you wish to withdraw participation simply close your browser and do not submit the online questionnaire. Withdrawal will not disadvantage you in any way, as respondents will not be individually monitored, there will be no way of knowing the name of anyone who did or did not complete the questionnaires. However, once the questionnaires have been submitted to the project, it will not be possible to delete your data from the study, because there is no way of identifying individual data. If you are an ACU student participant, and provide your student ID in order to obtain course credit, this information will be forwarded the relevant Lecturer in Charge for granting of credit where eligible, but removed from data files prior to analysis.
Once the study has been completed, the Student Researcher will write a report to be published as a PhD thesis as part of the qualification of a combined Masters of Clinical Psychology/PhD postgraduate degree. It is possible that the results of the study may be published in a scientific journal, however you will not be identifiable, as only group data will be submitted. The questionnaires will not ask for your name, instead, each will be allocated a number upon receipt after completion. Results from completed questionnaires will be kept in a secure computer, in a secure location on campus at the university.

If you have any questions about this research project, before or after participating, please contact the Staff Supervisors Dr Helen Aucote on (03) 9953 3013 or Dr Barbara Jones on (03) 9953 3464 at the Australian Catholic University’s school of Psychology, Melbourne campus. Alternatively you could contact the Student Researcher Leah Duxbury at tb0028407@myacu.edu.au.

Feedback about the study will be available upon request. However as stated earlier, due to issues of confidentiality, only aggregate results will be available.

This study has been approved by the Human Research Ethics Committee at the Australian Catholic University (V2010 116).

In the event that you have any complaint or concern about the way you have been treated during this study, or if you have any query that the Supervisor and Student Researcher have not been able to satisfy, you may write to the Chair of the Human Research Ethics Committee care of the nearest branch of the Research Services Office:

VIC: Chair, HREC
C/- Research Services
Australian Catholic University
Melbourne Campus
Locked Bag 4115
FITZROY VIC 3065
Tel: 03 9953 3158
Fax: 03 9953 3315

Any complaint or concern will be treated in confidence and fully investigated, and you will be informed of the outcome.

If you are willing to participate in this project, you should keep a copy of this information for your records, and know that your support for the research project is greatly appreciated!

Principal Supervisor: Co-Supervisor: Student Researcher:
Dr Helen Aucote Dr Barbara Jones Leah Duxbury
Appendix P

Version of CCQ utilised in Study 2

In life, different situations can be stressful. Within the past month, think about the last
time you felt the most stressed? Please briefly describe this situation that caused (or
still causes) you stress…

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

How stressful was this situation for you? Please select one number.

<table>
<thead>
<tr>
<th>A little bit stressful</th>
<th>Moderately stressful</th>
<th>Extremely stressful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

People react to stressful situations in many different ways. Some people find that the
amount of food, caffeine, cigarettes, alcohol or other drugs they have, changes when
they feel stressed. Thinking about what you did at the time of the stressful situation
you just described, please select one response for each of the following statements.

Compared to when I don’t feel stressed, at the time of this stressful situation I…

<table>
<thead>
<tr>
<th>Ate food…</th>
<th>A bit less than usual</th>
<th>A bit more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

Drank caffeine…

<table>
<thead>
<tr>
<th>Drank caffeine…</th>
<th>A bit less than usual</th>
<th>The same as usual</th>
<th>A bit more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Smoked cigarettes…

<table>
<thead>
<tr>
<th>Smoked cigarettes…</th>
<th>A bit less than usual</th>
<th>The same as usual</th>
<th>A bit more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Drank alcohol…

<table>
<thead>
<tr>
<th>Drank alcohol…</th>
<th>A bit less than usual</th>
<th>The same as usual</th>
<th>A bit more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Took other drugs (e.g. ecstasy, painkillers, marijuana, etc)…

<table>
<thead>
<tr>
<th>Took other drugs (e.g. ecstasy, painkillers, marijuana, etc)…</th>
<th>A bit less than usual</th>
<th>The same as usual</th>
<th>A bit more than usual</th>
<th>Never use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Think about what you had more of (than usual) when you experienced your stressful
situation. We are now interested in why you had more.

Below is a list of some of the reasons people may have for eating food, drinking
caffeine or alcohol, smoking cigarettes, or taking other drugs when they feel stressed.
Please select the number that best shows how much each reason applied to you,
regardless of whether it worked or not.
It is ok to switch between food/caffeine/alcohol/cigarettes/other drugs as you go through the list - just answer how true each reason was for you whether it relates to all, some, or only one of the things you had more of than usual during your stressful situation.

I had food/caffeine/cigarettes/alcohol/other drugs in the course of the stressful situation I described earlier...

<table>
<thead>
<tr>
<th>Reason</th>
<th>Not at all true of me</th>
<th>Moderately true of me</th>
<th>Extremely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>To disconnect from my emotions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take a moment for myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To ease unpleasant physical sensations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time-out to regroup</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To help relax my muscles</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To avoid facing difficult thoughts about the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To feel happier</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time to figure things out</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To avoid feeling my emotions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To help ease physical discomfort</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To feel free</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To escape unpleasant emotions</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To get relief from pain in my body</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To give myself some down-time</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To cheer myself up</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To avoid thoughts that bother me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To relieve intense physical sensations</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To think about something pleasant</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To take some time out to get back on track</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>To lift my mood</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
### Appendix Q

Corresponding item number and phrases

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCQ1</td>
<td>To disconnect from my emotions</td>
</tr>
<tr>
<td>CCQ2</td>
<td>To take a moment for myself</td>
</tr>
<tr>
<td>CCQ3</td>
<td>To ease unpleasant physical sensations</td>
</tr>
<tr>
<td>CCQ4</td>
<td>To take some time-out to regroup</td>
</tr>
<tr>
<td>CCQ5</td>
<td>To help relax my muscles</td>
</tr>
<tr>
<td>CCQ6</td>
<td>To avoid facing difficult thoughts about the situation</td>
</tr>
<tr>
<td>CCQ7</td>
<td>To feel happier</td>
</tr>
<tr>
<td>CCQ8</td>
<td>To take some time to figure things out</td>
</tr>
<tr>
<td>CCQ9</td>
<td>To avoid feeling my emotions</td>
</tr>
<tr>
<td>CCQ10</td>
<td>To help ease physical discomfort</td>
</tr>
<tr>
<td>CCQ11</td>
<td>To feel free</td>
</tr>
<tr>
<td>CCQ12</td>
<td>To escape unpleasant emotions</td>
</tr>
<tr>
<td>CCQ13</td>
<td>To get relief from pain in my body</td>
</tr>
<tr>
<td>CCQ14</td>
<td>To give myself some down-time</td>
</tr>
<tr>
<td>CCQ15</td>
<td>To cheer myself up</td>
</tr>
<tr>
<td>CCQ16</td>
<td>To avoid thoughts that bother me</td>
</tr>
<tr>
<td>CCQ17</td>
<td>To relieve intense physical sensations</td>
</tr>
<tr>
<td>CCQ18</td>
<td>To think about something pleasant</td>
</tr>
<tr>
<td>CCQ19</td>
<td>To take some time out to get back on track</td>
</tr>
<tr>
<td>CCQ20</td>
<td>To lift my mood</td>
</tr>
</tbody>
</table>
Appendix R

Unstandardised path diagram for original CFA

Note. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to Cope; CCQ1 to CCQ20 = CCQ items; Res1 to Res 4 = Residual error of latent variables; e = measurement error.
Appendix S

Unstandardised path diagram for revised CFA

Note. T = Time-out, E = Escape Psyche, P = Physical Relief, I = Improve Mood, C = Consume to Cope; CCQ1 to CCQ20 = CCQ items; Res1 to Res 4 = Residual error of latent variables; e = measurement error.