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***Evaluation of the relationship between Lifestyle Balance, Emotional Regulation, and Relapse with individuals with drug and/or alcohol problems.***

***A thesis presented in partial fulfilment of the requirements for the degree of MASTERS OF SCIENCE IN PSYCHOLOGY at Massey University, Albany, New Zealand.***

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## ABSTRACT

Drug and alcohol abuse costs the country over \$5.3 billion per year (Slack, Nana, Webster, Stokes, & Wu, 2009). Treatment can reduce both the health and social cost of drug and alcohol abuse (Rout, 2008) but relapse remains a major problem (Stewart, 2000). Studies have shown lifestyle balance and emotion regulation are important factors in relapse prevention (Thakker & Ward, 2012; Matto, Strolin & Mogro-Wilson, 2008). This study explored the relationship between lifestyle balance, emotion regulation and relapse with 25 participants, aged between 18 and 55, actively seeking treatment through CADS North Action group. Participants reported their subjective lifestyle balance, emotion regulation, and whether they had relapsed, at three time periods (pre-, mid-, and post-treatment). Relapse rates were 56% at pre-, 42% at mid-, and 25% at post-treatment. Results indicate a positive relationship between lifestyle balance and relapse, which suggests that as lifestyle balance improves relapse decreases. Results also indicate that, as emotion regulation improves relapse decreases. A newly developed lifestyle balance questionnaire (LBQ) showed good psychometric properties, which were comparable with existing measures. This study addresses a gap in the literature on the relationship between lifestyle balance, emotion regulation and relapse, in a drug and alcohol population, and seems to be the first of its kind in New Zealand. Limitations of the research and future directions are discussed.

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## *Chapter I*

### INTRODUCTION

Lifestyle balance has been described as “a satisfying pattern of daily occupation that is healthful, meaningful, and sustainable to an individual within the context of his or her current life circumstances” (Matuska & Christiansen, 2008, p. 11). When lifestyle balance is achieved, the presumption is that all an individual’s needs are being met therefore they will have better all-round health and life satisfaction (Matuska & Christiansen, 2008). The importance of achieving lifestyle balance within health conditions has been determined in the fields of diabetes management (Kramer et al., 2009), stress management (Matuska & Christiansen, 2008) and multiple sclerosis (Matuska & Erickson, 2008). However, there is little information with respect to drug and alcohol problems. Whilst general lifestyle features have been recognised as important to many areas of drug and alcohol treatment (Garland, Gaylord, Boettiger, & Howard, 2010; Huebner & Kantor, 2011; Kelly, Magill, & Stout, 2009), it seems that a formal lifestyle balance measure has not yet been developed specifically for use within an alcohol and drug population.

If a person’s life is in balance, and all their needs are met, it seems logical that they will be better equipped to succeed more often when pursuing their goals. It therefore also seems reasonable to assume that within a drug and alcohol population, lifestyle balance might be important in preventing relapse, which would, in turn, allow an individual to achieve their goals.

Relapse is defined as returning to a former state after making an improvement (Witkiewitz & Marlatt, 2004). It has been described as one of the biggest challenges during and after treatment for drug and alcohol problems (Mann & Hermann, 2010). Relapse has been strongly linked with poor self-control and impulsivity in substance users by Evenden (1999). Emotional regulation, therefore, may be an appropriate measure for capturing levels of impulse control, emotional awareness and self-control (Gratz & Roemer, 2004). Research has demonstrated the importance of emotional

regulation to relapse (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2006; Fox, Hong, & Sinha, 2008), thus determining the relationship between these three variables, lifestyle balance, emotion regulation and relapse, may be helpful in terms of intervention planning. It may be possible to consider whether interventions targeting lifestyle balance and/or emotional regulation have additional benefits in helping to reduce relapse in individuals with drug and alcohol problems.

Lifestyle balance has been hypothesised to be an important factor in many areas of health, including drug and alcohol problems, although there appears to be little formal literature on the topic (Thakker & Ward, 2012). This study will explore the issue of lifestyle balance, and gauge its link to relapse and emotional regulation.

## *Chapter II*

### LITERATURE REVIEW

#### 2.1 Drugs and Alcohol

*“First you take a drink, then the drink takes a drink, then the drink takes you.” F. Scott Fitzgerald*

Addiction is derived from the Latin word to “be bound to” (Maddux & Desmond, 2000). Addiction can take many forms including but not limited to Alcohol, Smoking, Drugs (Maddux & Desmond, 2000), Gambling (Potenza, Sofuoglu, Carrol, & Rounsaville, 2011), Food, Sex, Love, Exercise (Gilbert, Gilbert, & Shultz, 1998), Work (Oates, 1971), Internet and Video Gaming (Winkler, Dorsing, Rief, Shen, & Glombiewski, 2013). In this research we are interested in the addiction to drugs and alcohol. However, the criteria for an addiction does include scope for all of these addictions.

The DSMIV (2000) refers to addiction as substance dependence which leads to impairment or distress, and can include tolerance. Withdrawal, unsuccessful attempts to disengage in the use, significant time spent in attaining and using, life activities are given up or done less due to use, use is continued despite knowledge of consequences, are all characteristics of addiction. This classification could easily fit any of the above addictions.

Drugs and alcohol are classified in two ways, by their legal status or by their effects (NZ Drug Foundation, 2010). Since this research is interested mainly in the use of drugs and alcohol and their relationship to relapse, lifestyle balance and emotion regulation, the effects of the drugs and alcohol will be used to simply classify them. Whether they are legal or not, is important but not a factor considered in this research. Here again this research is narrowing the focus based on the arena of drug and alcohol

addiction treatment to “alcohol and other drugs, where other drugs include illegal and misused legal drugs” (Slack et al., 2009, p. 1).

Drugs can be classified into three main effects categories, whilst there is overlap the focus is on the main effect observed in participants. The NZ Drug Foundation (2010) refers to depressants, hallucinogens, and stimulants. Depressants include alcohol, cannabis, benzodiazepines, opiates and inhalants. Hallucinogens include LSD and ecstasy. Stimulants include cocaine, methamphetamine, speed, party pills, nicotine and caffeine. Interestingly caffeine and nicotine will not specifically be included or excluded despite the fact that both are addictive and have massive social costs, they, as the research suggests, are simply seen as less harmful despite research which suggests otherwise, “studies have shown that the measure of product harm... is rarely predictive of its legal status. Otherwise alcohol and tobacco would be illegal.” (Bourgain, Falissard, Blecha, Benyamina, Karila, & Raynaud, 2011, p. 441).

“Addiction to drugs, such as heroin, cocaine and alcohol, extracts great human and financial costs on society” (Kreek, LaForge, & Butelman, 2002, p. 710). Drug and alcohol addiction is often characterised as “a compulsion to take a drug with the loss of control over the drug taking” despite the obvious adverse consequences (Kreek et al., 2002, p. 710). It has also been reported as a “chronic relapsing disease” (Leshner, 1997, p. 45), which is characterised by dependence, withdrawal, and tolerance. These costs and difficulties are the key motivation for this research.

### 2.1.1 Cost of Drug and Alcohol Addiction

In the United States, the office of National Drug Control (2004) estimated the cost of drug and alcohol abuse at 180 billion US dollars. This cost is based upon lost or reduced productivity of workers due to death, disability or withdrawal from work as well as the cost of addressing consequences such as health costs and the cost of crime.

In New Zealand, the cost of alcohol misuse was estimated to be \$5.3 billion in 2005 (Slack et al., 2009). According to the Ministry of Health (2009), just over 50% of people consumed more than the recommended amount at least once in the past year. In

2008, one in six people (aged 15 and over) were believed to have a drinking problem (Ministry of Health, 2008). Deaths in New Zealand, attributed to alcohol, are estimated to be between 600 and 1000 people (Connor, Broad, Rehm, Hoorn, & Jackson, 2005). The New Zealand Police report that half of the serious violent crimes committed are related to alcohol and one third of all the apprehensions involve alcohol (New Zealand Police, 2010). This suggests that alcohol is a significant problem in New Zealand.

The cost of other drugs in New Zealand is more variable; marijuana is reportedly the third most popular drug, coming directly after tobacco and alcohol. Yet according to the Ministry of Health (2001), marijuana was only the leading cause of death in seven cases through the period of 1990-1996. But, they suggest that there may be underreporting present. For the same period of 1990-1996, opiates were regarded as the underlying cause of 156 deaths.

Health costs for the individual, often shouldered by the public health system, and so ultimately tax payers, are diverse (Slack, Nana, Webster, Stokes, & Wu, 2009). For example prolonged drinking can lead to brain damage, cancers, heart and circulation problems, liver damage, stomach ulcers, internal bleeding, high blood pressure, impotence and infertility, weak bones, weight gain or loss, risky behaviour and disinhibition, mental health problems such as stress, depression, personality disorders, schizophrenia and anxiety (Ministry of Health, 2009; Ministerial Committee on Drug Policy, 2007), which are yet more costs of drugs and alcohol.

There is also the cost to the individual themselves with the drug and alcohol problem, and those around them, such as family and friends, the community, etc., on top of the health cost (Rout, 2008). These costs are less obvious but in some cases more difficult to deal with. The World Health Organisation (2003) refers to such "other" costs in general as inappropriate, embarrassing, and violent behaviour. Drug and alcohol abuse also contributes to development of mood disorders which can increase the risk of suicide, family and social consequences such as isolation, loss of work, divorce. Crime to and by the individual and a poor financial situation for the individual and their family is a significant cost (Ministerial Committee on Drug Policy, 2007). Therefore it is important to continue research into this population wide problem, to help the individual,

their family and those around them, reduce health and disability costs and reduce the amount of unnecessary deaths.

### 2.1.2 Treatment of Drug and Alcohol Addiction

The treatments used to reduce drugs and/or alcohol problems are commonly intensive inpatient or outpatient treatment programmes followed by some form of continuing care (McKay & Hiller-Sturmhofel, 2011). The main model used in New Zealand for initial treatment is called the Minnesota Model of Addiction Treatment, created in 1950, it uses the principals of Alcoholics Anonymous 12 steps, with intensive therapy, individualized treatment plans and family involvement to get the individual “off” the drugs and/or alcohol (Heubner & Kantor, 2011).

Continuing care is support provided to maintain gains which have been made through the initial treatment, working from a harm reduction model, and can be split into three themes; self-help groups, group counselling, and individual therapies (McKay & Hiller-Sturmhofel, 2011). Alcoholics Anonymous (AA) is the most well-known of the self-help groups and was developed in 1935 (Heubner & Kantor, 2011).

Whilst AA is also widely used in NZ, there is a process in between intensive treatment and continuing care which fills a gap inherent in this process and also provides treatment through to continuing care. This support system is provided by a community alcohol and drug service accessed through an alcohol drug helpline. These services provide each of the three themes above; group counselling, individual therapy and self-help groups as well as providing addiction treatment and advice, and specialized programmes for different groups such as adolescents and adults (Rout, 2008).

Community Alcohol and Drug Services are provided throughout the country providing support as above. In Auckland the Community Alcohol and Drug Services, abbreviated to CADS is more well known simply as CADS and therefore the use of the term CADS in this research is used to refer to CADS Auckland. As CADS Auckland services three District Health Boards (DHBs) across Auckland, further differentiations

are used, for example CADS North, South, Central and West. CADS in Auckland is the focus of this research and is a prime example of treatment and continuing care, providing counselling, medical detoxification, residential treatment options, dual diagnosis services, methadone services, as well as assessment, intervention and support services that match and support a wide range of clients and client goals (Community Alcohol and Drug Services (CADS) Auckland, 2003).

The main problem with all of these continuing care models is that people have a tendency not to complete them and relapse (McKay & Hiller-Sturmhofel, 2011). A 36% drop out rate was found in a study of an addiction program by King and Canada (2003) and 43% by Mulvaney, Alterman, Boardman, and Kampman (1999) in a cocaine treatment program. Early drop out has been linked to poorer long term prognosis and thus relapse (Agosti, Nunes, & Ocepeck-Welikson, 1996; Gottheil, Sterling, & Weinstein, 2003). However, even for those who complete treatment and receive ongoing support the rate of relapse remains staggeringly high.

## 2.2 Relapse

*“Relapse serves as an early warning sign of a failure to maintain desired behaviour change” (Chung & Maisto, 2006, p. 149),*

Relapse rates with drugs and alcohol are considered very high, they have been found to be between 50 – 90% in relation to substance abuse (Hunt et al., 1971; Hunt & Matarazzo, 1973; Marlatt & Gordon, 1980, 1985, cited in Brownell, Marlatt, Lichtenstein, & Wilson, 1986). While some more recent relapse studies have shown between 62% (Evren, Durkaya, Evren, Dalbudak, & Cetin, 2012) and 75% (McLellan, Lewis, O’Brien, & Kleber, 2000) in the 6-12 months following treatment. In one study as high as 100% of all the participants relapsed (Maisto, Pollock, Cornelius, Lynch, & Martin, 2003). More short term relapse rates, within the first four weeks of treatment, were between 22-47% (Schmitz, Stotts, Sayre, DeLaune, & Grabowski, 2004). This is more in line with the current study which is looking at relapse rates at pre-treatment, and also at mid-treatment stages (3 – 4 weeks after pre-treatment).

### 2.2.1 What is Relapse?

Relapse is defined by the Oxford English Dictionary (2013, p. 1) as “returning to a former state after making an improvement”. However, the term as it is used within the drug and alcohol setting has several definitions. One definition of relapse is based upon a black and white approach, where the individual has either used drugs and/or alcohol, above what they should have within a time frame, or they have not (Chung & Maisto, 2006) and thus return to previous behaviour patterns or continue with goal usage (abstinence or minor controlled use). Another is relapse defined in its role as part of a “transitional process” (Marlatt & George, 1984, p. 263), providing learning and discovery, as well as motivation, and in this way relapse is more like a lapse, where the individual has used above their target goal (whether abstinence or controlled minor use) in an occasion and then returns to the goal use levels.

Witkiewitz and Marlatt (2007) attempt to explain this difference in definitions as being due to the wide variety of behaviours to which the term relapse has been applied. These include substance abuse, chronic illness, gambling, and mental illnesses. A relapse can therefore be defined as one drink, as a period of uncontrolled drinking (or substance use), or a return to a former level of substance use behaviour (Scholz & Keltenbach, 1995). Often this can be dependent on the goal the person has, such as whether they are aiming for total abstinence, to be able to control their drinking, or to maintain a reduced level of drinking (Miller, Westerberg, Harris, & Tonigan, 1996).

This ambiguity is also apparent in research, where definitions range from vague, such as return to drug use but without further specification (Stalcup, Christian, Stalcup, Brown, & Galloway, 2006) to more specific, such as in Ramo, Prince, Roesch, and Brown (2012) who define it as “any use following a 2-week period of sustained abstinence” (p. 46). Others seem to lie somewhere in-between, describing relapse as a return to drinking after a period of abstinence (Becker, 2008; Evren et al., 2012; Larimer, Palmer, & Marlatt, 1999), or as a “return to levels of ethanol consumption equal to or greater than that observed prior to ‘abstinence’” (Rodd, Bell, Sable, Murphy, & McBride, 2004, p. 441).

The problem with such varied definitions of relapse is that they can lead to different results. Maisto et al. (2003) found that differing definitions of relapse led to variations between when it was recorded that the first relapse occurred, a difference of between 26 and 90 days. Relapse rates for addictive diseases usually are in the range of 50% to 90%; however, these rates vary by definition of relapse, severity of addiction, the drug of addiction, length of treatment, and elapsed time from treatment discharge to assessment (Hunt et al., 1971; Hunt & Matarazzo, 1973; Marlatt & Gordon, 1980, 1985, cited in Brownell, Marlatt, Lichtenstein, & Wilson, 1986).

Within this research, relapse is considered to be a lapse, where it does not equate to a return to previous behaviour but is rather considered a learning opportunity and part of the long term goal acquisition process. However, on the Relapse Questionnaire it will be equated to the black or white, relapsed or did not format, as the research is simply interested in whether a person felt they relapsed (had a lapse) in the past week, in terms of drank or used more than their goal amount.

### 2.2.2 Why is Relapse so important?

*“Relapse is a major characteristic of drug addiction, and remains the primary problem in treating drug abuse” (Stewart, 2000, p. 2).*

Relapse is important because “substance use disorders are chronically relapsing conditions” (Ramo et al., 2012, p. 44) and “for many patients, alcohol and other drug (AOD) use disorders are chronic, recurring conditions involving multiple cycles of treatment, abstinence, and relapse” (McKay & Hiller-Sturmhofel, 2011, p. 356). In addition, individuals who have a relapse experience feelings of failure and guilt associated with the relapse which can lead to a complete relapse (return to previous behaviour) and disengagement from support. The feelings of guilt may lead to an increase of engagement in high risk situations (Marlatt, 1978). Relapse and the return to alcohol and drug use can also cause increased stress as well as family, employment and emotional problems (Brown, Vik, McQuaid, Patterson, Irwin, & Grant, 1990). This, as above, can be a vicious cycle of relapse leading to problems which increased relapse.

Curry, Marlatt, and Gordon (1987) describe an “abstinence violation effect” (p. 145), where a person has a relapse or lapse and depending how they react to this, might have a full blown relapse and return to prior use levels, or not. By looking at the causes and reasons for relapse there is hope for a solution or at least ways of helping an individual become more likely to succeed with their goal and reduce the risk of relapse (Marlatt, 1992).

Relapse is important as it is part of the cycle where the most effort can be placed to give individuals the best chance of not slipping up and returning to previous levels of use. Three factors of relapse are important; the first is avoiding the relapse in the first place after treatment because this may lead to a return to previous levels of behaviour (Rawson, Obert, McCann, & Marinelli-Casey, 1993). The second and third are important should a relapse occur (whether a lapse or full relapse to previous behaviour) and respectively take either the view that relapse is a time to re-evaluate goals, learning strategies and skills to prevent a return to previous behaviour patterns or that relapse is a temporary lapse where it is not a failure but a small mistake to be corrected (Marlatt, 1992). Relapse therefore provides a learning opportunity, as above, and as is important to this study, is the prevention of relapse after treatment as this seems like the line between remaining goal orientated and giving up and returning to previous behaviour.

The research will sample from a group of participants who are in the action or maintenance stage of relapse prevention (Prochaska & DiClemente, 1983) treatment through CADS North. Therefore they may be relapsing currently but are actively trying to change their drug and alcohol use or have achieved their goal (abstinence or controlled use) and are involved in the group to maintain these gains. Those actively trying to change through the CADS action group therefore will benefit from the view that a relapse is just a mistake or slip and a learning opportunity. Furthermore those maintaining relapse goals are actively learning to avoid the factors associated with a risk of relapse. As relapse prevention is a cognitive learning process of treatment, the CADS action group is teaching and reinforcing learning and behaviour change (Marlatt, 1992).

Treatment and continuing care in wider drug and alcohol arena often focus on learning and skill development at or in relation to the critical relapse factor. The stage or

place that relapse has in the cycle of drug and alcohol addiction is an important one and critical for long term well-being and goal maintenance (Witkiewitz & Marlatt, 2007).

### 2.2.3 What is the cause of Relapse?

Marlatt and Gordon (1984, cited in Larimer et al., 1999) suggest that the cause of relapse can be split into two categories; the first is immediate determinants or instantaneous factors that can cause a return to the previous behaviour, such as high risk situations. The second theme is covert antecedents which work in the background and slowly build to cause relapse, and lifestyle factors are a good example of this (Larimer et al., 1999)

Immediate determinants include; situational factors, withdrawal factors, belief factors and coping factors. The first factor, situational variables, often referred to as high risk situations, includes feeling bored at home alone, feeling angry at a job loss, or feeling angry after an argument with a family member (Larimer et al., 1999), but can also include situations where the individual has or has had cravings such as a social event or party (Stalcup et al., 2006).

The second factor is withdrawal symptoms, related to changes within the brain caused by the substance itself (Larimer et al., 1999). Drug and alcohol-free individuals, showed different brain functioning patterns on EEG (Electroencephalogram, measuring electrical activity along the scalp) than those with a problem with drugs and or alcohol (Saletu-Zyhlarz et al., 2004). When the substance is reduced or taken away completely there is often a period of physiological withdrawal as well as a fear of this withdrawal, called withdrawal-related anxiety, which can lead to relapse (Becker, 2008). An example of this is in a study by Paolini and De Biasi (2011) where nicotine withdrawal has been cited as the main reason people do not quit successfully and relapse.

An individual's beliefs about or feelings toward a substance (factor three) appears, in the literature, to have a major impact on whether they begin taking a substance, struggle with and relapse back to taking the substance (Carey, 1995; Brown, 1985; Lookatch, Dunne, & Katz, 2012; Marlatt & Gordon, 1985). Brown (1985) for

example, describes these beliefs as ‘outcome expectancies’ and Carey (1995) has shown that the expectations of college students to the positive effects of alcohol, and only these, can play a part in their choice to use. Immediate gratification, stress reduction and mood improvement are also often cited outcome expectancies to return to their substance of preference whether it is drugs or alcohol or both (Larimer et al., 1999).

Coping strategies (factor four) has been found to be important determinants to whether a person relapses or does not (Marlatt & Gordon, 1985). Research has shown the better the person is at being able to use the right coping strategy, at the right time, despite all other factors, the more likely that person is to not relapse (Decamps, Scoccaro, & Battaglia, 2009). These strategies include positive cognitive skills and problem solving skills (Matto et al., 2008) as well as behavioural coping strategies (Witkiewitz & Marlatt, 2007).

The second theme is a group of factors called covert antecedents. They include lifestyle factors, cognitive factors, emotional factors, social factors, and demographic factors. These factors can either increase the risk of relapse by increasing involvement in risky situations, or by lowering an individual’s ability to resist a (Larimer et al., 1999). Marlatt and Gordon (1985) propose that the biggest covert antecedent to relapse is the balance in an individual’s life (factor one covert antecedents).

Larimer et al. (1999), link lifestyle factors to relapse and rate this as one of the most important factors that “increase the drinkers’ exposure to high risk situations” (p. 152). Physical needs (Maslow, 1954) and spiritual fulfilment (Neff & MacMaster, 2005), as well as purpose (Lovejoy et al., 1995), have all been linked to lifestyle balance and relapse. Emotion (factor two, covert antecedents) has been linked to relapse (O’Farrell, Hooley, Fals-Stewart, & Cutter, 1998), specifically negative emotional states which are associated with the highest risk of relapse (Marlatt & Gordon, 1985). Negative emotional states have been found to be the most common reason for relapse (Hodgins, El-Guebaly, & Armstrong, 1995; Strowig, 2000).

Cravings and urges are also reported to play a pivotal role in relapse to drugs and alcohol. A craving and an urge are not the same; an urge is a sudden impulse to engage in an act such as having a drink (Marlatt & Gordon, 1985) while a craving is the

desire to use alcohol or other drugs to feel their effect (Stalcup et al., 2006). Both cravings and urges are some of the most interesting phenomena as they directly relate to the relapse to drugs and alcohol for no other apparent reason than it is desired. Cravings and urges have both been linked to emotion regulation (Delgado, Gillis, & Phelps, 2008) for the regulation of expected rewards to control urges which may arise.

Social support factors (factor three, covert antecedents) have been linked to relapse by Havassy, Hall, and Wasserman, (1991). More specifically social pressures were shown to be precipitators of minor relapse (Hodgins, El-Guebaly, & Armstrong, 1995), but also led to more than half of all the relapses (Marlatt, 1996). Consistent with this then is that social support has also been found to be a useful strategy to maintain the goal of not relapsing (Decamps, et al., 2009). Stress has been related to emotional factors (2) and lifestyle factors (1) and is strongly related to relapse (Becker, 2008; McMahon, 2001). It is both a cause of relapse and an affect from relapsing (Seeman & Talerico, 1999). For example, stress was found to be a key factor related to addictive behaviour (Ungless, Argilli, & Bonci, 2010) and studies with rats found that even one stressful event, in this case a shock, could lead to relapse to drugs in rats previously taught to take drugs (Shaham & Stewart 1996).

Brady and Sonne (1999) hypothesise that it is the body's response which plays a role in vulnerability to initial use of alcohol and then to relapse, and suggest that clearer links will be found leading between the response and use which should lead to better treatments for relapse. Seeman and Talerico (1999) found stressors ranged from illness/death of a loved one to occupational stress.

Lastly, though not mentioned in the Relapse Prevention model, demographic characteristics are sometimes also related to relapse. It seems reasonable to add them into covert antecedents, as they play a role in the background to relapse, however, it could be argued that they were not included because they are factors that for the most part are relatively stable and unlikely to change. Rollins, O'Neill, Davis, and Devitt (2005) list factors such as age and employment status as relevant to relapse prevention models, however no effect due to age was found in a study by Domino et al. (2005).

Employment status was found to be a predictor of relapse in McCaul, Svikis, and Moore (2001) alongside gender and ethnicity. Ethnicity groups were found to show different relapse rates in a study by Foster, Marshall, and Peters (1998). Another study of relapse and gender found that there is a difference between men and women (Walitzer & Dearing, 2006). Briefly, relapse can also be affected by genetics, family history, socioeconomic status, dual diagnosis and education level (Domino et al., 2005; McCaul et al., 2001) however, these factors are beyond the scope of this research.

Many of the factors above work together or are linked to one another (Kelly, Magill & Stout, 2009; Larimer et al., 1999; Zywiak et al., 2006). For example, Zywiak et al. (2006) list factors increasing relapse risk as negative affect, family influences, craving, and social pressure. Their study shows that those who relapse due to social pressure are the most likely to keep having relapses, and those who relapse due to negative affect have the most severe relapses. Stalcup et al. (2006) found cravings were linked to environmental cues, stress, mental illness and drug withdrawal. There has even been the suggestion that relapse may strike spontaneously and be due to an automatic behaviour such as having a drink when at a party (Adinoff, Williams, Schreffler, Schepis, & Rosvall, 2010).

#### 2.2.4 How is Relapse prevented?

Relapse treatment is largely aimed at addressing relapse risk factors. This includes pharmacological interventions and active treatments. Relapse prevention is at the tertiary stage of prevention of substance abuse (Marlatt, 1992). The people needing support for relapse are likely beyond their first experimentations with substances and are believed to have a problem. This research is focused in the realm of active treatments.

There is no magic cure which rids people of lapses and relapses. Though there is research into pharmacological treatments to reduce relapse with this as a goal. Marlatt (1992) splits biomedical treatment into two categories. The first is management of withdrawal or detoxification, for example benzodiazepines are used to reduce anxiety related to changing the use of substances. The second category is management of

maintenance stages where disulfiram or naltrexone can be used. Naltrexone is thought to work by blocking the positive reinforcing effects of drugs and alcohol (Littleton & Zieglsangberger, 2003). Disulfiram on the other hand seems to cause adverse effects if alcohol is used (Mutschler et al., 2010).

Active treatments include Cognitive Behavioural Therapy (CBT), Interpersonal Psychotherapy and Dialectical Behaviour Therapy (DBT) which all work on teaching skills, growing positive habits, increasing insight and the control the individual has over them self (Witkiewitz & Marlatt, 2007). Mann and Herman (2010) give examples including Motivational Interviewing, community reinforcement, CBT techniques, motivational enhancement, twelve-step facilitation, social network support and Behaviour Therapy.

At this stage identifying high-risk situations, and increasing the use of coping skills and positive responses is used (Witkiewitz & Marlatt, 2007). These treatments occur both during and after treatment, and can be placed into separate categories, but are often used together. Adinoff et al. (2010) recommend behavioural interventions which focus on avoidance of situations and stimuli that are associated with relapse. Stalcup et al. (2006) review the Craving Identification and Management (CIM) model of treatment in reference to craving and posit that identification and awareness of causes are useful in placing strategies to prevent use and relapse.

Brown and Ramo (2006) and Witkiewitz and Marlatt (2004) focus on the importance of high risk situations being managed by the increase in coping skills through behavioural and cognitive models of treatment. Brady and Sonne (1999) confirm the use of increasing coping skills and add problem solving skills and social support as important. Research shows strong support for the relationship between active treatment strategies useful in reducing relapse risk which focus on high risk situations, coping skills and social support.

The model chosen for this research is the Relapse Prevention (RP) model developed by Marlatt and Gordon (1985). The RP is a CBT based model which uses learning and skill development techniques to identify high risk situations, learn coping skills and facilitates the importance of social support. Larimer et al. (1999), in a review

of the RP model, report that “the RP model incorporates numerous specific and global intervention strategies that allow therapist and client to address each step of the relapse process” (p. 151). They list, on top of high risk situation identification, coping skills and social support techniques, increasing clients self-efficacy, eliminating alcohol related myths, managing lapses and changing clients perspective and balancing lifestyle factors, developing positive addictions and making relapse road maps (Larimer et al., 1999).

In New Zealand community alcohol and drug and similar services offer community based support throughout the country which deals with the full spectrum of relapse treatment, both active treatments and pharmacological treatments. CADS Auckland runs a number of different groups (eg. age groups, sexual orientation, ethnicity specific groups) and provides a range of different services (assessment, education, groups, individual counselling and referral to additional support), but these are all directed at a change in the individual’s drug or alcohol use (Community Alcohol and Drug Services (CADS) Auckland, 2003).

## 2.3 Lifestyle Balance

*“Live a balanced life - learn some and think some and draw and paint and sing and dance and play and work every day some.” Robert Fulghum (1988).*

### 2.3.1 What is Lifestyle Balance?

Lifestyle balance is a term referenced frequently in the media to describe a better life or a “life worth living” (Proctor, 1929, p. 356). A better life being one with less stress, increased well-being and satisfaction, where the individual is better equipped to deal with all life has to offer. This is often reported to be achieved through the right mix of work, rest, play, and sleep (Meyer, 1922). An internet search with this as the keyword returns over 250,000,000 results, listing websites which give notions of how lifestyle balance can be improved, how it can be achieved, how it is important, what it means, as well as websites purporting to have the keys to a balanced life. Despite this there appeared to be no formal model or measure of lifestyle balance or an agreed upon

definition of life balance until Christiansen and Matuska formalised a model in 2008 and a measurement tool in 2010 (Christiansen & Matuska, 2008; Matuska, 2010).

### 2.3.2 History of the Lifestyle Balance

As far back as 1920's, Proctor (1929) was highlighting that making a home, giving freely of ones time in community service, having a hobby and having an ideological goal to strive for, were ways in which the individual could make a better life. Meyer (1922) proposed the big four of work, rest, play and sleep and the importance of attaining and maintaining balance within these for increased satisfaction.

Some of the most recognised early work was by Maslow (1954) in the field of motivation, which led him to write about needs that are important to individuals. These needs were ranked in order of importance and Maslow (1954) discussed how these needs and their environment may motivate the individual in the choices they make. These needs ranged from basic, such as physiological, to more complex, such as self-actualising needs, other needs including safety, social and esteem needs, were deemed to be important. Maslow (1954) focused on labelling the person from the perspective of their needs being met, if they were hungry then they became a hungry person with other needs being less evident to them, however once the hunger was satisfied then the next unmet need became the primary focus. If all basic needs were met then the individual was more focused on higher level needs such as goal attainment or improving oneself.

Another early theory that has influenced the idea of lifestyle balance is called the self-determination theory (Deci & Ryan, 2000). This theory posits that individual needs are linked to three categories: a level of competence, autonomy, and relatedness. The importance of autonomy has also been confirmed by other authors (Williams, Gagne, Ryan, & Deci, 2002; Williams, et al., 2006). Competence and relatedness have been linked strongly with the engaged, challenged and competent factors of lifestyle balance (Matuska, 2010). Deci and Ryan (2000) report these factors as fundamental psychological needs for well-being and life satisfaction.

Alcoholics Anonymous (AA) views the reliance on a spiritual higher power belief as integral to life balance and maintaining recovery success (Marlatt, 1992).

While there is limited support for AA, it is regarded as one of the most successful self-help groups for those with alcohol problems (Marlatt, 1992), for the same reasons that there is limited support (i.e. AA is very private and confidential), means specifics of the treatment outcomes are restricted. However, group membership, self-efficacy, motivation and active coping are found to be related to the AA's success (Morgenstern, Labouvie, McCardy, Kahler, & Frey, 1997). One of the tools used within this group relates to general precipitants as well as their own personal triggers (Straussner, 2004) and refers to the HALT acronym. The HALT acronym refers to the emotional danger areas of an individual, Hunger, Anger, Loneliness and Tired. The focus on facets of life used by the AA therefore seem to be related to possible lifestyle balance factors of spirituality (or a belief in a higher power), social support (group membership and loneliness), self-efficacy, motivation, active coping, emotions (Anger), and physical needs sleep (Tired) and nutrition (Hunger).

One of the larger gatherings of literature is around a concept that is very similar to lifestyle balance and is called work/life balance or work/family balance. This focuses mainly on the balance between work life and home life, and often relates to time spent at work versus home as out of proportion (Tousig & Fenwick, 2001). The focus of this type of lifestyle balance is being satisfied with both work and family roles (Greenhaus, Collins, & Shaw, 2003). Spence and Robbins (1992) describe "Workaholism" (p. 160) as high work involvement which leads to stress and health complaints. Stress and health concerns relate to a poor work/life balance and a lifestyle imbalance (Matuska, 2010). Macan, Shahani, Dipboye, and Phillips (1990) found that the better the time management of the participants the higher the work and life satisfaction achieved in a study of college students. Work-life balance is as close as the early literature comes to the concept of lifestyle balance but seems to simply focus on part of, or some of, the factors covered by lifestyle balance.

Recently these ideas and theories have come together in the conceptualization of lifestyle balance and have been formalised into a model based on the "common theme across the ages which has been that well-being and happiness can be promoted by patterns of occupation that reflect a satisfactory relationship with self, others and the environment" (Christiansen & Matuska, 2006, p. 50). The idea of personal meaning in the choice of activity has shown to be important to lifestyle balance (Sheldon, Ryan,

Deci, & Kasser, 2004). Ryff (1995) showed that basic psychological needs that are consistent with a meaningful life are necessary for well-being.

A review of lifestyle balance completed by Christiansen and Matuska (2006) looked at four themes which they found important to life balance. These included time use, roles, satisfying needs and lifestyle patterns/rhythms. The first theme, time use, refers to factors such as stress and work/life balance affecting the amount of time and in turn being affected by the amount of time allowed for by spending too much time in one activity. Roles, as the second factor related to lifestyle balance in much the same way as demands on time, where there is a demand on resources due to multiple roles (father, son, boss, gardener, repairman, accountant). Needs, as identified above in Deci and Ryan (2000), Maslow (1954), and HALTs (Straussner, 2004), are reviewed as the third factor related to lifestyle balance, and relate autonomy and independence, relatedness and affiliation, competence and mastery, self-esteem, security and safety, self-actualization, meaning and purpose in life, and physical health.

Christiansen and Matuska (2006) build a model of lifestyle balance based on their research above that also includes characteristics which are believed to be important to meeting human needs for well-being. Deci and Ryan (2008) report on well-being being focused on happiness and positive affect or living life in a satisfying way. This supports the findings that well-being is affected by both the goals that people pursue and the reasons that they pursue these goals (Sheldon et al., 2004), Pentland and McColl (2008) found that a choice made without value will negatively affect well-being. Happiness, life satisfaction, optimal functioning and well-being are all used to describe the ultimate goal of lifestyle balance by Matuska and colleagues (Christiansen & Matuska, 2006, 2008; Matuska & Erickson, 2008).

This lifestyle balance model (Christiansen & Matuska, 2008) is similar to others and proposes that people need to meet basic needs, have rewarding relationships, feel engaged, challenged and competent, and create meaning and identity to meet their needs, they focus on individuals needing to do so by working to manage their time and multiple roles to achieve their goals (Christiansen & Matuska, 2008). When lifestyle balance is achieved, the presumption is that all an individual's needs are being met therefore they will have better all-round health and life satisfaction, and also be able to

focus on their personal goals and feel more motivated to achieve these (Matuska & Christiansen, 2010).

### 2.3.3 Factors of Lifestyle Balance

#### 2.3.3.1 Social

A relationship, or some form of good social contact, consistently shows up as one of the biggest factors in life balance. For example, in the majority of the literature or research on factors effecting life balance there is mention of this as an important factor. Maslow's (1954) level of needs, lists love and belonging. Deci and Ryan (2000) mention relatedness and the need to be connected to others as well as being cared for and caring for others. Christiansen and Matuska (2006, 2008, 2010) report on positive relationships with others and the importance of having relationships with others that are rewarding and self-affirming. More specifically, McKay and Hiller-Sturmhöfel (2011) found relationships and support systems such as family and friends was important to motivation, Greenhaus et al. (2003) found higher levels in quality of life for those who spent more time with family. Ferguson, Carlson, Zivnuska, and Whitten (2012) found that social support from family and colleagues increased satisfaction in both work and family domains. Social support has also been associated with well-being (Thompson & Heller, 1990).

Matuska and Christiansen (2008) identify a gap in the research in regards to the right balance between getting social support and giving it. Another gap in the research is how much support a person can give for them to have increased well-being without crossing the line of too much, which can be stressful and unhealthy, in fact the balance across needs has shown greater well-being than needs being met but with more variability (Sheldon & Niemiec, 2006).

### 2.3.3.2 Purpose

Personal challenge factors such as competence and autonomy allow for the person to feel worthwhile, engaged and in some form of control, this allows for personal growth and a sense of meaning and accomplishment (Matuska & Christiansen, 2008). An increase in autonomy and competency for patients increased adherence to medication in a study by Williams, Rodin, Ryan, Grolnick, and Deci (1998). Macan, Shahani, Dipboye, and Phillips (1990) showed that the use of better time management strategies by an employee led to higher work and life satisfaction for that individual.

### 2.3.3.3 Physical needs

Physical needs are likely the most well-known of the lifestyle balance factors and their benefits have been recognised in many different disciplines including health, nutrition, employment, media, and psychology. For example a study on basic needs such as diet and exercise showed that they likely lowered the risk of coronary health issues (Stampfer, Hu, Manson, Rimm, & Willett, 2000). Good eating habits have been associated with better health (Baum & Posluszny, 1999). Exercise has been shown to reduce stress in a study by Skully, Kremer, Meade, Graham, and Dudgeon (1998) and regular exercise can improve sleep (Youngstedt, O'Connor, & Dishman, 1997), all of which can be linked with lifestyle balance.

Other needs which are important to lifestyle balance are reported by Deci and Ryan (2000), who report that being aware of the psychological needs for meaning and identity can help individuals to facilitate well-being and achievements. Matuska and Christiansen (2008) referred to creating meaning and seeking a positive identity in the occupations people opt to pursue. This was broadly observed through or achieved through work or family occupations but sought more attentively when focused on a bigger picture or greater meaning.

#### 2.3.3.4 Lifestyle factors together

Recently the term lifestyle balance has been formalised in a review by Christiansen and Matuska, in 2008 “based on the configurations of everyday patterns of occupation that meet essential human needs” (p. 10), they identified physical, social, challenge, competence, identity and meaning categories which need to be met through various occupations.

Matuska (2010) describes 6 dimensions of well-being in a Life Balance Inventory (LBI) developed based upon the model initially proposed in 2008 (Christiansen & Matuska, 2008.) The factors of lifestyle balance which were believed to be important and together to make up an individual’s life balance include; self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. The goal of the LBI is for the individual to 1. Meet basic needs for biological health, security and safety. 2. Have rewarding and self-affirming relationships with others. 3. Feel engaged, challenged and competent. 4. Create meaning and positive identity (Matuska, 2010).

#### 2.3.4 Why is Lifestyle Balance important?

Lifestyle balance has become increasingly important; in part due to the changes in how people live and the opportunities they face, as well as the responsibilities these opportunities entail (Christiansen & Matuska, 2006). Over time people have become able to do more things, from the major societal changes such as more women in the workplace to the technological advances in the form of computers, internet and cell phones. Christiansen and Matuska (2006) discuss lifestyle imbalance being caused in part because of individuals struggling to meet the demands of modern life related to these changes.

Christiansen and Matuska (2006) discuss both real and perceived time commitments as limiting the degree to which an individual is able to meet their many needs and this leads to increased negative stress and other consequences. A term ‘quality time’ is being used more frequently, this is used as an example of society

needing the reminder that time spent in certain activities needs to be quality. Often used in association with time spent with family and friends, as well as leisure and rest. Fatigue, anxiety, and stress come from insufficient quality in the time spent in these activities. The term quality time is then being used to increase realization that to make them worthwhile there needs to be effort put into making this so (Christiansen & Matuska, 2006).

Health risks and costs associated with stress have been highlighted in many reviews (Kalia, 2002; Matuska & Christiansen, 2008). Furthermore this has been highlighted in many reviews regarding life balance and is the reason why balance in life has become increasingly significant in research (Geithner, Albert, & Vincent, 2007; Hakansson & Matuska, 2010, Matuska & Christiansen, 2008; Sheldon, Cummins, & Kamble, 2010).

Understanding lifestyle balance is important in today's modern life (Diener, 1984; Matuska & Christiansen, 2008). Lifestyle balance has been linked to better health (Baum & Posluszney, 1999; Skully et al., 1998; Youngstedt et al., 1997), happiness (Christiansen & Matuska, 2006; Deci & Ryan, 2008; Veenhoven, 2009), well-being (Deci and Ryan, 2000; Marks & MacDermid, 1996; Matuska, 2010; Ryff, 1995), and lowered levels of stress (Antonovsky, 2003; Frankl, 1984; Matuska, 2010; Sapolsky, 2004). Veenhoven (2009) described three ways that life balance can be assessed; it can be a subjective sense of how balanced the individual thinks they are, or based on a preconceived idea of what balance should be, or a mix of lifestyle factors that yields the most happiness.

The studies which investigated the concept of lifestyle balance have found many positive links with well-being, for example when balance actually seems to be achieved, the individual is able to feel more enjoyment, interest and motivation in life according to Csikszentmihalyi (1997), and a meaning in life is said to be the most important factor for resilience to stressful situations (Antonovsky, 2003; Frankl, 1984). Matuska (2010) described lifestyle balances's importance as being related to an improvement that is related to the individual having the ability to make life seem more meaningful, more satisfying and less stressful.

The lifestyle balance studies discussed above, as well as those that have looked at the consequences of lifestyle imbalance (below), offer vital clues as to how individuals can improve their lives. To further understand the importance of lifestyle balance we can look at the consequences of a life which is imbalanced. Matuska (2010) describes life imbalance as too much time spent in work which affects personal and family wellbeing, through reduced time with family, in leisure, and rest activities. Studies have shown a link between life imbalance and poor sleep (Berset, Elfering, Luthi & Semmer, 2010) poor health (Molarius et al., 2006) and harm to the body (McEwan & Lasley, 2002), including obesity (Hayward et al., 2000).

### 2.3.5 What is the link between Lifestyle Balance and Relapse?

*The definition by Oates (1968) of a workaholic is “an addiction to work that produces behaviour patterns similar to those of an alcoholic” (p. 16).*

The feeling of being engaged, competent and challenged has been highlighted in the literature and can be linked to the strategies to reduce relapse (Marlatt & Gordon, 1985). These factors can be related to the effective use of coping skills and research has shown the more coping skills an individual has the more likely they are to not relapse (Monti, Rohsenow, Michalec, Martin, & Abrams, 1997). In the same way these lifestyle factors can increase the likelihood the individual is to use their coping skills, and use them at the correct time. These too have been shown to be important determinants to relapsing and not relapsing (Decamps et al., 2009; Marlatt & Gordon, 1985).

The need for social interaction can be linked strongly to relapse, and has been found to be an important factor in maintaining a goal of not relapsing (Decamps et al., 2009; Havassy et al., 1991). It can also be linked to motivation and needed for change, if personal needs for social support are not being met then the individual is likely to have less motivation (McKay & Hiller-Sturmhöfel, 2011), this lack of motivation could take the form of not eating correctly or not looking after physical needs (lifestyle imbalance). It is important to include the interrelatedness of these factors physical linked to social and vice versa.

Meeting physical needs can support an improvement in health related problems which affect the likelihood of an individual relapsing. Factors which are affected by physical needs going unmet can include too much stress, not enough sleep, and poor routines which have been shown to influence relapse (Marlatt, 1992; McMahon, 2001; Miller et al., 1996). Poor health itself can be a stressful situation and lead to a lower amount of sleep as well as poor exercise habits; these can all lead to increased high risk situations and relapse (Seeman and Talerico, 1999). The importance of this factor within the drug and alcohol arena is highlighted by Niemiec, Ryan, Deci, and Williams (2009) who found people that remained motivated toward their physical health had better tobacco abstinence. Physical needs, in the theoretical model put forward by Maslow (1954) suggest that physical needs being met is vital to other important needs.

## 2.4 Emotion Regulation

*“How we regulate our emotions matters: Our well-being is inextricably linked to our emotions.”(Gross, 2002, p.281)*

### 2.4.1 What is Emotion Regulation?

Gratz and Roemer (2004) conceptualise emotion regulation (ER) as “modulation of emotional arousal” and a better “awareness, understanding, and acceptance of emotions” (p. 41), with an ability to control ones behaviour when experiencing negative emotions. Gross (2013) suggests that emotion regulation is most relevant when it is related to a goal, in the case of this research the goal is to not relapse back into drug and alcohol use.

Gratz and Roemer (2004) suggest there are six dimensions of emotion regulation. In order these are “lack of awareness of emotional responses,” “lack of clarity of emotional responses,” “non-acceptance of emotional responses,” “limited access to emotion regulation strategies perceived as effective,” “difficulty controlling emotional responses” and “difficulties engaging in goal related behaviour when experiencing negative emotion.” (p. 52) Therefore emotion regulation seems to be related to one’s levels of ability in different skills, ability to identify what responses one

in having (awareness), ability to relate emotion response to what it means (level of knowledge), the ability to be accepting of oneself (level of acceptance) and ability to control oneself (emotional response and goal attainment) (Gratz & Roemer, 2004).

Emotion regulation with the goal of not relapsing then is, for example, based around dimensions of the problems related to awareness of emotions (negative affect or craving) and good emotion regulation could be described as the ability to become aware of those emotions likely to cause a relapse (Gratz & Roemer, 2004).

This is what makes up emotion regulation, yet the question remains as to whether the emotion regulates something or is it that the emotion is regulated? The second usage is recommended by Gross & Thompson (2006). Therefore, if emotions are to be regulated by something and this research is interested in what this is, then a search into how emotion regulation develops is important to understanding it.

#### 2.4.2 Emotion regulation development

Nature or nurture is a consideration in emotion regulation development (Kochanska, Philibert, & Barry, 2009). There is some support to suggest that emotion regulation is related to our genetics and it has been proposed by Hariri and Holmes (2006) that we are either likely to be good at regulating emotion or not, Kochanska et al. (2009) suggest a interplay between genes and environment. Emotion regulation seems to be firmly set in the learned skill category as below. According to numerous studies emotion regulation is a skill which is learned from birth, and it is key to social development and healthy relationships (Cote, DeCelles, McCarthy, Van Kleef, & Hideg, 2011; Dennis & Kelemen, 2009; Lopes et al., 2011; Martini & Busseri, 2012). For example, maternal warmth was found to regulate emotion and behaviour of teenagers in a study by Walton and Flouri (2010). Emotion regulation is considered a learned skill that is also important to further learning (Bandura, 1977).

The Cognitive Behavioural (CB) model describes the relationship between emotions, cognitions, behaviours and physical reactions, within the context of

situational factors (5 Part Model). In this model, a change in emotion could affect and be affected by the body reactions, thoughts and actions (Greenberger & Padesky, 1996).

#### 2.4.3 Why is Emotion Regulation important?

Emotion regulation is important from two aspects. Firstly one could determine what good emotion regulation is and what factors are linked to this so that those qualities can be focused upon. Secondly, it is also important to look at bad emotion regulation (dysregulation) and the consequences of this to see what areas require improvement. According to research, people who have good emotion regulation are more able to pursue their goals and are better equipped to succeed with them (Brackett, Palomera, Mojsa-Kaja, Reyes, & Salovey, 2010; Newman & Joseph, 2010). Those with good emotion regulation are also less likely to engage in reckless, impulsive, self-destructive, or aggressive behaviour according to Walton and Flouri (2010), Lotze, Ravindran, and Myers (2010), Gratz and Roemer (2004), Cohn, McCrady, Epstein, and Cook (2010), Gratz and Tull (2010), Auerbach, Claro, Abela, Zhu, and Yao (2010).

“One of life’s great challenges is successfully regulating emotions” (Gross, 2002, p. 281). Emotional regulation skills are important in today’s world as there are more people in closer proximity to one another and we all must constantly negotiate the social and physical world. Gross (2002), highlights that emotion regulation has been highlighted by other theorists since Darwin as important in facilitating social interactions. There are challenges and situations all around that require our emotions to remain in check to succeed in our goals, these can include helping school children, executives and professionals, with conflict management through emotion regulation (Dennis & Kelemen, 2009; Gross, 2013).

Another reason why emotion regulation is so important is the ability to, in some ways, control our well-being, Gross (2013) uses the example of turning attention away from potentially upsetting material. Gross and John (2003) show that reappraisal is linked to well-being and Heilman, Crisan, and Houser (2010). Heilman, Crisan, Houser, Miclea, and Miu (2010) suggest that beneficial effects on decision making are increased by effective emotion regulation.

A lack of ability to regulate emotions, first of all, can negatively affect social functioning (Lopes et al., 2011). Individuals may exhibit signs ranging from extreme uncontrolled outbursts of anger to small facial expressions that are inconsistent with an expected response. For example, people notice and often disapprove of a person smiling at a funeral or laughing during a sad movie (Cole, Zahn-Waxler, & Smith, 1994).

Several maladaptive behaviours, such as anger, social problems, anxiety, depression, and stress, have been related to poor emotion regulation, often called emotion dysregulation and these are discussed below. Martin and Dahlen (2005) link emotion dysregulation with depression, anxiety, stress and anger. Behaviours such as risk taking can affect a persons' or another's safety (Auerbach, et., 2010). Problem behaviour (Lotze et al., 2010; Walton & Flouri, 2010), poor self-control (Tice & Bratslavsky, 2000), partner violence (Cohn, McCrady, Epstein, & Cook, 2010) and self-harm (Gratz & Roemer, 2004; Gratz & Tull, 2010) are all related to emotion dysregulation.

One of the most common maladaptive behaviours is related to anger, for example, aggression is a possible outcome of anger and is related to emotion dysregulation in Szasz, Szentagotai, and Hofmann (2011). Pond, Kashdan, DeWall, Savostyanova, Lambert, and Fincham (2012) showed a link between emotion regulation, aggression and anger, and posited that better emotion regulation may weaken the relationship between anger and aggression. Mauss, Cook, and Gross (2007) had findings which suggested that better automatic emotion regulation may provide an effective means of controlling powerful negative emotions such as anger and lead to not having these cause problems through aggression.

Emotional dysregulation has been linked to social problems (Cote et al., 2011; Dennis & Kelemen, 2009; Lopes et al., 2011; Martini, 2012; Wilson, Fernandes-Richards, Aarskog, Osborn, & Capetillo, 2007). It has also been linked to mental health problems, such as depression (Kuppens et al., 2012), and anxiety (Suveg et al., 2010; Tull, Stipelman, Salters-Pedneault, & Gratz, 2009). Emotion dysregulation problems are often seen as a comorbid condition for this reason (Kessler et al., 2011).

Emotion dysregulation is also linked with difficulty finding, doing and keeping work for many of the reasons above such as anger and aggression, for example, emotion dysregulation problems were linked with poor job performance (Newman & Joseph, 2010), and burnout and poor job satisfaction (Brackett et al., 2010). Furthermore Heilman et al., (2010) have linked emotion dysregulation and cognitive reappraisal, with poor emotion regulation affecting decision making which in turn affects work outcomes.

#### 2.4.4 What is the link between emotion regulation and relapse?

Poor emotion regulation has been related to gambling problems and drinking problems (Stewart, Zach, Collins, Klein, & Fragopoulos, 2008). Emotion dysregulation has been linked with alcohol use during and after therapy (Berking et al., 2011), impulsive behaviour and substance use disorder (Weiss, Tull, Viana, Anestis, & Gratz, 2012), as well as cocaine abuse and antisocial behaviour (Hien, & Miele, 2003). What these studies suggest is that emotion regulation skills are important as they show that a better ability to tolerate or cope with negative emotions which have so often been linked with relapse, would be beneficial. For example, when individuals have good emotion regulation, Matto et al. (2008) found that the participants had fewer cravings. Herwig et al. (2010) also found the importance of self-awareness of emotion linked relapsing to drugs and alcohol.

Being able to understand, accept and modify emotions to achieve goals is the focus of good emotion regulation in this research. For example, if one feels angry this could be transferred into motivation to do better next time, which likely better serves the individuals goals and is related to improved lifestyle balance and reduced risk of relapse. In a situation where negative emotions are present it is useful to be able to look at the positives (Gross & John, 2003). The role of emotion regulation strategies to control or reduce impulsive behaviours (Weiss et al., 2012) is another reason for a focus on this concept within the drug and alcohol, relapse prevention, research.

## *Chapter III*

### METHOD

The purpose of this research is to determine if there is a link between Lifestyle Balance and Relapse, Emotion Regulation and Relapse, as well as Lifestyle Balance and Emotion Regulation in the context of a drug and alcohol population at a community alcohol and drug service in New Zealand.

#### 3.1 Research Context

CADS Auckland runs a number of different groups (eg. age groups, sexual orientation, ethnicity specific groups) and provides a range of different services (assessment, education, groups, individual counselling and referral to additional support), and these are all directed at a change in the individual's drug or alcohol use.

The CADS Action group, where the research will be conducted, specifically focuses on lifestyle balance, emotion regulation and managing urges and cravings, RP model, as well as wheel of change, CBT skills, adjunctive treatment (naltrexone), replacing current addictions with positive addictions, mindfulness, smart goals, communication and boundary setting skills in an overall framework of learning and behaviour change in relation to all the factors of treatment mentioned above. This research is interested in the learning and skill acquisition in relation to lifestyle balance and emotion regulation (related to managing urges and cravings) and how this relates to relapse.

## 3.2 Participants

The criteria for participation was entering and involvement in the evening Action Group run by CADS North after completion of the four week CADS Getting Started group. Data collection started in August 2012, once ethical approval was acquired, and ran until March 2013. Data was collected from participants at three time points (pre-, mid- and post-treatment) as they went through the 8 week Action group which had rolling admissions (see FLOW CHART, Appendix A).

### 3.2.1 Time one (T1)

A total of 37 clients of CADS North were admitted to the Thursday night Action Group during the data collection phase. Twenty five returned the questionnaire packs for T1 filled in correctly. Of the 25 participants, 16% (4/25) were 25 years or under, 40% (10/25) were between the ages of 26 and 40, and the remaining 44% (11/25) were between the ages of 41 and 55. Seventy two percent (18/25) of the participants were male, 32% (8/25) of the participants were married, 24% (6/25) were in a de facto relationship and the remaining 44% (11/25) were single. Seventy two percent (18/25) of the sample was in full time employment, 8% (2/25) were in part time employment and 20% (5/25) were unemployed. Seventy two percent (18/25) of the participants identified as NZ European, 12% (3/25) as Maori, 4% (1/25) as South African, and the remaining 12% (3/25) as Other and there were no participants who identified as Asian. Sample characteristics were relatively representative of the make-up of the New Zealand population (Statistics New Zealand, 2006).

### 3.2.2 Time two (T2)

A total of 12 participants from T1 completed the questionnaire pack correctly at T2 (mid-treatment 3 – 4 weeks after T1). Of these 12 participants, 8.3% (1/12) were in the 25 or under age group, 33% (4/12) were in the 26 – 40 age group and 58% (7/12) were in the 41 – 55 age group. Seventy five percent (9/12) of these 12 were male. Thirty three percent (4/12) were married, 25% (3/12) were in a de facto relationship and 42%

(5/12) were single. Eighty three percent (10/12) were in full time employment, 8.3% (1/12) were in part time employment and 8.3% (1/12) were unemployed. Seventy five percent (9/12) identified as NZ European, 8.3% (1/12) as Maori, 8.3% (1/12) as South African and 8.4% (1/12) as Other.

### 3.2.3 Time three (T3)

A total of 8 participants from T1 and T2 also completed T3 (post-treatment 8 weeks after T1). Thirty eight percent (3/8) were in the 26 – 40 age group and the remaining 62% (5/8) were in the 41 – 55 age group. Sixty two percent (5/8) were male. Thirty eight percent (3/8) were married, 12% (1/8) de facto and the remaining 50% (4/8) were single. Seventy five percent (6/8) were in full time employment, 12% (1/8) were in part time employment and 12% (1/8) were unemployed. Eighty eight percent (7/8) identified as NZ European and 12% (1/8) as South African.

## 3.3 Materials

A research questionnaire pack was compiled for distribution to potential participants. This pack included;

### 3.3.1 Information sheet

All participants were given an information sheet, this outlined the study, its purpose and participant criteria, including information on voluntary participation, and what could be involved. (See Appendix B)

### 3.3.2 Demographic Questionnaire

All participants were asked to complete a demographic questionnaire. This assessed gender, age, current relationship status, current employment status, and

ethnicity. This data was used to confirm sample population demographics as representative of the larger population. (See Appendix B)

### **3.3.3 Lifestyle Balance Questionnaire**

The Lifestyle Balance Questionnaire (LBQ) was developed to establish the level of balance in an individual's life.

The LBQ was initially developed by Catherine Lowry-Hanlon and Bev Monahan based on the AA HALT model (Straussner, 2004). Both Catherine and Bev are senior clinicians and directors of the CADS North Action group programme. The questionnaire underwent four revisions prior to this study being conducted. Revisions involved rewording of the questionnaire through feedback and brain storming sessions with CADS Action group clients. The LBQ assesses individual's typical levels of lifestyle balance across seven domains; hungry, angry, lonely, tired, sad, sick and stressed, based around the HALT model (Straussner, 2004) and other factors found to be important. It contains statements about needs related to individual's life balance. The LBQ was then edited and standardised by this researcher in an attempt to fully capture the concept of Lifestyle Balance in a population of alcohol and drug users seeking support through CADS. Scores on the LBQ can range from 15 to 75 and higher scores reflect less lifestyle balance.

A full description of this process is provided on page 36: LBQ development.

The 15 items on the LBQ are scored on a 5-point Likert scale that ranges from 1 (*almost never*) to 5 (*almost always*) where there is also an option for individuals to answer not applicable (N/A). The questionnaire included items such as "I have felt lonely over the past week" and "I have felt too angry over the past week" (see Appendix D).

### 3.3.4 Life Balance Inventory

The Life Balance Inventory (LBI) developed by Matuska (2010) is a 53 item, self-report measure. It assesses individuals' typical levels of life balance across four needs-based scales: physiological health, relationships, identity, and challenge/interest. Examples of the items in this scale are; "getting regular exercise" and "doing things with family members" and each item has an option of choosing "yes" or "no" whether the item is something the participant does or wants to do, and those which are answered with a "yes" are scored on a 5-point Likert scale from 1 (*always less than I want*) to 3 (*about right for me*) then back to 1 (*always more than I want*). A higher score is indicative of a more balanced life and the total score can range from 53 up to 159. This instrument has been shown to have good test-retest reliability (coefficient of 0.60), acceptable construct validity, adequate predictive validity, and good internal consistency (Matuska, 2010) (Appendix E).

### 3.3.5 Difficulties in Emotion Regulation Scale

The Difficulties of Emotion Regulation Scale (DERS) was developed by Gratz and Roemer (2004) and is a 36 item self-report measure. This tool assesses an individual's typical levels of emotion dysregulation across six domains: non-acceptance of negative emotions, inability to engage in goal directed behaviours when distressed, limited access to emotion regulation strategies perceived as effective, lack of emotional awareness, and lack of emotional clarity. The DERS contains items such as "I am clear about my feelings" and "I pay attention to how I feel" and individuals can rate these from 1 (*almost never*) to 5 (*almost always*). The score can range from 36 to 180 with a lower score indicating better emotion regulation. Eleven items are reverse scored. The DERS has been shown to have good test-retest reliability ( $\rho = 0.88, p < 0.01$ ) and adequate construct predictive validity (Gratz & Roemer, 2004).

### 3.3.6 Relapse Questionnaire

The relapse questionnaire was developed by the researcher. It is a very simple measurement tool asking first whether the individual has had a relapse in the past week with a dichotomous yes/no answering scale. The lack of definition of relapse was due to the fact that those being supported through the CADS program have different goals in regards to relapse, some are attempting to be completely abstinent, while others are attempting to reduce or have better control over their consumption of drugs and/or alcohol. Relapse here is seen a black or white, they did or they did not have what they considered a relapse. In this population a relapse is seen as part of the process of recovery, using the substance as not a failure but a “bump in the road” where the next week they will again attempt to keep to their goals, whatever that may mean to the individual, yet the measure of relapse is as above. This relapse measure is in line with much of the existing relapse research which uses a yes/no approach (see for example Wild, Cunningham & Roberts, 2006; Condiotte & Lichtenstein, 1981; Evren et., 2012; Maisto et al., 2003; Ramo et al., 2012).

Individuals’, who answered yes to relapse, were asked a second question about what substance was used during the relapse. This data was for descriptive purpose only. Finally, a third question asked for an amount or drinks or drugs that were used during the relapse. Of interest here was the degree to which an individual felt they had a relapse compared with the quantity of substance used. However, there is no baseline data and this question was only used at phase 3 (T2 and T3).

### 3.4 Research Design

This study used self-report measures to test the relationship between the independent variables lifestyle balance (high or low and total score) and emotion regulation (high or low and total score) and the dependent variable relapse (yes or no). These relationships were explored with correlations.

### 3.5 Procedure

This research involved two phases, the initial phase (phase 1) developed the LBQ and the second phase (phase 2), collection of data using the LBQ, LBI, DERS, Relapse Questionnaire and demographic information (only at T1) from the identified population (CADS North Action Group).

#### **3.5.1 PHASE 1: LBQ Development**

The LBQ had been developed to test lifestyle balance for clients within Community Alcohol and Drug Services (CADS) evening Action Group (see LBQ in measures). As described previously, this measure was developed with CADS and had undergone four previous revisions. It subsequently went through further modifications by the researcher to enhance its validity and reliability. This included consulting previous research and adding items that the literature suggested were important. In addition, seemingly similar items were removed, and the amended measure was discussed with peer reviews.

A further review was then carried out by providing the questionnaire to the researcher's friends, family, peers and experts for content validity (including Catherine Lowry-Hanlon, one of the questionnaire developers). This produced changes in item wording which was necessary to increase understanding.

Further, response categories were reworded for better understanding. Increasing scales, decreasing scales and mid-point Likert scales were tested through additional peer review, for face validity, it was then decided that a positive (i.e. 1 to 5) Likert scale would be used (thus a higher score indicated a lower lifestyle balance). The wording of the scales labels was also changed so each question could be answered on one standardised answer scale (i.e. all on the 1 to 5, rather than a mix of 1 to 5 and 5 to 1). The resultant version of the LBQ chosen was believed to be simple, short, and proficient at capturing an individual's subject experience of lifestyle balance.

#### **4.5.2 PHASE 2: Data Collection**

Those individuals identified as meeting the research criteria, i.e. accepted into, and beginning the 8 week CADS Action Group (see FLOW CHART, Appendix A), were given an information sheet which outlined the research and voluntary opportunity to participate in the research, as well as assurance that should they wish to decline to participate that treatment would continue as usual. (see Appendix B).

After one week, which is in accordance with the CADS standard procedure between offering a place in the Action group and the first Action group, those who chose to participate were given a questionnaire pack which contained two questionnaires (LBI and DERS) and the demographic information form (these three forms were colour coded (pink at T1) to identify them as different from the LBQ). They were allocated 20-25 minutes before the first Action Group to complete these questionnaires. The entire question pack was tested as taking 15 – 20 minutes to complete on average. The participants returned the completed questionnaires to the CADS collaborator and began the Action Group. Within the Action group, all group members (including non-participants) are required to complete the LBQ individually in accordance with CADS procedure. After the group has finished, the CADS collaborator took a photocopy of the completed LBQ for the participants involved in the research. These were all placed together with the individuals' questionnaire pack and an identifying number was placed on each form which allowed for anonymity to the researcher. Completed questionnaire packs were placed in an envelope for the researcher to collect the next day. (See FLOW CHART, Appendix A). On average, 0-3 participants filled in a questionnaire pack per week.

#### **3.5.3 PHASE 3: Data collection time two (T2) and time three (T3)**

The questionnaire pack (now without the demographic form and colour coded (green T2 and blue, T3)) were administered at two further time intervals (making a total of three administrations T1, T2 and T3). The same process as Phase 2 was used for both administration and collection.

## *Chapter IV*

### RESULTS

#### 4.1 Purpose of research

The purpose of the research was to explore the relationships between the lifestyle balance, emotion regulation and relapse variables. This chapter will begin with an examination of the psychometric properties of the newly developed measure, Lifestyle Balance Questionnaire (LBQ), This will be follow by confirmation of the same for the Life Balance Inventory (LBI) and Difficulties in Emotion Regulation Scale (DERS) with this sample. This will be then followed by the testing of the other research aims, and finally, some descriptive statistics from time two and three will be presented.

#### 4.2 Missing data

Out of a total of 37 time one (T1) questionnaire packs that were distributed to participants entering the CADS Action Group, which were staggered over 6 months, 26 were returned. One questionnaire pack was not completed correctly and so was left out of the final analysis. Therefore the final sample size is 25 participants ( $N = 25$ ).

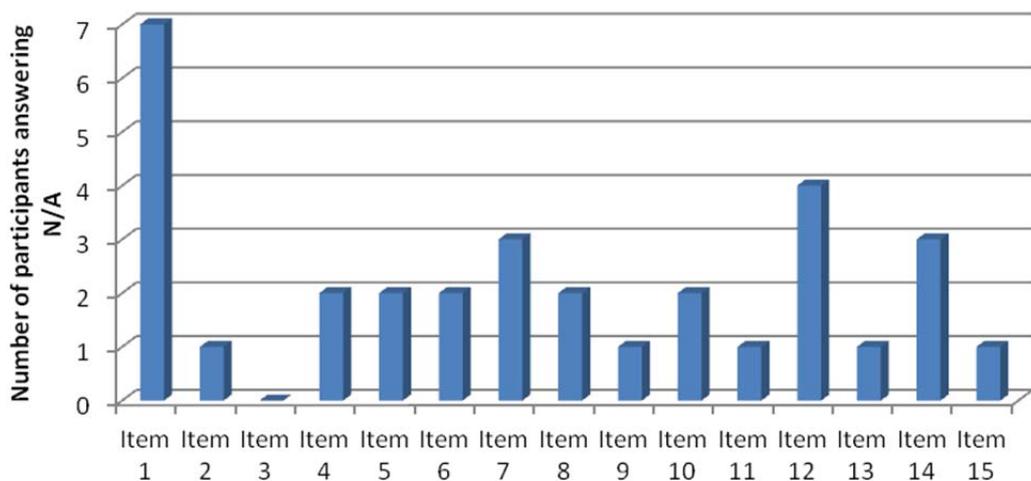
#### 4.3 Dealing with missing item data

All items on the LBQ (15 items) had the option of a not applicable (N/A) choice as well as the rating scale. This allowed the participant to leave out items that they felt were not applicable to their lifestyle balance. Similarly the LBI (53 items) included a “no” option, so that the participant could indicate no interest in engaging in a particular activity.

Initially the LBQ N/A and the LBI “no” scores were replaced with the median score on their respective scales. However, this process averaged out participant total scores and created unwarranted kurtosis, leptokurtic or narrowing of the normal distribution for both measures.

Therefore, for both the LBQ and LBI, a “mean imputation” strategy was used (Gelman & Hill, 2006, p. 532) where an average from the items that were answered was used in place of the items not scored on the rating scale for each individual participant. In this way a total score for each questionnaire and each participant is equally able to be compared and contrasted to another as they are all treated as equally as possible.

#### 4.4 Analysis of Missing item data Lifestyle Balance Questionnaire



*Figure 1.* Bar graph of the total number of participants that answered with N/A on each item of the LBQ at T1.

Descriptive analysis of the items that were answered N/A on the LBQ demonstrated that item1 (relating to spirituality) had more than double the amount of participants marking it N/A ( $N = 7$ ), compared to almost all the other items were had between one and four participants. For item3 (regarding emotional fulfilment), none of the participants marked this as N/A (see Figure 1).

#### 4.5 Analysis of Missing item data Life Balance Inventory

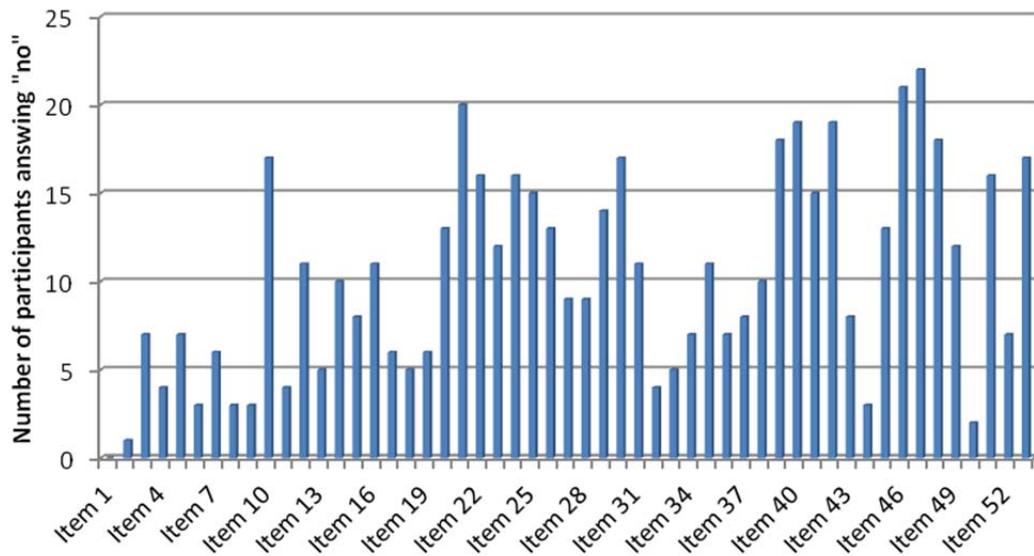


Figure 1.1 Bar graph of total participants who answered “no” to each item of the LBI at T1.

There was less consistency in the “no” answering on the LBI. Items (21, 46 and 47) had on or above 20 participants answering that “no” they do not and would not like to do these activities. Item 21 relates to religious activities, items 46 and 47 refer to journaling and writing/composing music respectively. Consistent with the LBQ, spirituality was reported as an activity that is not being done and not wanted to be done.

#### 4.6 Psychometric properties of the Life Balance Inventory and Difficulties in Emotion Regulation Scale

##### 4.6.1 Life Balance Inventory

Cronbach’s alpha for this sample was .95 representing good internal consistency (Coolican, 2009) and is comparable to previously determined results (i.e.  $\alpha = .89$ , Matuska, 2010).

##### 4.6.2 Difficulties in Emotion Regulation Scale

The internal consistency (Cronbach's alpha) for the DERS total T1 from this sample was .94 which compares well to previous results ( $\alpha = .93$ , Gratz and Roemer, 2004).

#### **4.7 Lifestyle Balance Questionnaire psychometric properties (AIM 1)**

An important facet of this research was to test for reliability and validity of the newly revised LBQ (aim1) which was developed specifically to explore lifestyle balance issues in people with alcohol and drug problems.

Coolican (2009) describes good internal consistency as having a Cronbach's alpha ( $\alpha$ ) of .75 and above. Cronbach's alpha for the LBQ from this sample was .88. George and Mallery (2003) provide a rule of thumb that defines  $\alpha$  of .80 as good and .90 as excellent, therefore the internal consistency for the LBQ is good to excellent. Factor analysis for the LBQ was unfortunately not able to be completed due to the small sample size, so no comments can be made about the structure of the questionnaire.

The LBQ was reviewed to check fit to the assumptions of normality, heteroscedasticity, and outliers. The scatter plot suggested the presence of linearity which confirms the use of a correlation coefficient, and showed no outliers present. The distribution of scores with respect to skewness and kurtosis tests (normality assumed where skewness and kurtosis value are not greater than twice the value of its standard error respectively) showed normality is within limits for the sample of CADS action group participants. Heteroscedasticity assumptions were not met, the visual cues for heteroscedasticity showed a pattern amongst the residuals. Therefore, it is recommended that a two tailed (directionality of relationship unknown) Spearman's rho correlation is used for test-retest reliability (Coolican, 2009). The Spearman's rho revealed no significant relationship between the LBQ at T1 and T2 ( $r_s(12) = .490, p > .05$ ), assuming an effect size of .49, the power, was estimated at .67, and therefore large (Cohen, 1988). By squaring the correlation coefficient, a finding of 24% of the estimated variance in LBQ at T1 is explained by the variance of LBQ at T2. This indicates there is some relationship between LBQ T1 and LBQ T2 which would be

expected, and that this goes in the expected direction, showing that as LBQ at T1 increases so does LBQ at T2 increase.

Validity of a measurement tool is the degree to which it measures what it claims to measure. There are a number of tests that together demonstrate the connection between the measurement tool and the construct in question. In terms of validity, face and content validity were explored and deemed appropriate in the method section.

The first consideration when doing a correlation is that there is interval (or higher) level data, the total scores from the LBQ meet the assumptions to be considered as interval level data (all items are answered on the same Likert scale, the items are summed, they are measuring the same latent variable, and can be argued to be on an approximation of an interval level (Jamieson, 2004; Knapp, 1990). Concurrent validity, is established by comparing the LBQ to an existing measure of a similar construct (i.e. the LBI), which has established reliability and validity. The concurrent validity of the LBQ was confirmed using correlation of the T1 sample (of both LBQ and LBI) with the LBI. Assumptions of normality, heteroscedasticity and outliers were met (see above for process of confirming these) and a two tailed is used (directionality of relationship unknown, see above). A Pearson product moment correlation was employed, the two variables correlated strongly and negatively,  $r(23) = -.58, p < .01$ , power was estimated at .85 ( $\alpha < .05$ ). The estimated variance explained by the LBQ indicates that 34% of the variance in the LBQ T1 is explained from the variance of the LBI T1. This is the expected outcome as lower scores on the LBQ denote better life balance, and higher scores on the LBI denote better lifestyle balance, this test outcome provides support for this relationship.

Discriminant validity is determined by comparison of the LBQ with a non-related measure, i.e. the DERS. Using correlation, the relationship between the LBQ and the DERS was investigated with a Spearman's rho correlation. Spearman's rho is used, as whilst normality assumptions were met, and there were no outliers, the variables did not meet the assumptions of heteroscedasticity (see above). The Spearman's rho for the LBQ and DERS showed the relationship has no statistical significance ( $r_s = .32, N = 25, p > .05$ ). Ten percent of the estimated variance in LBQ is

explained by the variance of the DERS. This seems to suggest that the DERS and LBQ are not measuring the same concepts.

This study provided support for the LBQ as a reliable and valid measurement tool.

#### 4.8 Demographic information by questionnaire

The questionnaires (LBQ, LBI and DERS) were reviewed in relation to demographic information to establish what relationships there may be. Non-related t-tests were used in this regard and research looking at the differences between two groups is important to review demographic qualities of the sample. Normality and homogeneity assumptions were met for this sample (recommended for these tests, Coolican, 2009).

#### 4.8.1 Lifestyle Balance Questionnaire

Table 1

*LBQ total score means and standard deviations by Demographic Group.*

| <b>Demographic</b>  | <b>Group</b>      | <b>M</b> | <b>SD</b> |
|---------------------|-------------------|----------|-----------|
| Age                 | 25 or under       | 48.39    | 9.11      |
|                     | 26 - 40           | 35.06    | 11.7      |
|                     | 41 - 55           | 34.78    | 8.62      |
| Gender              | Male              | 37.58    | 10.74     |
|                     | Female            | 35.75    | 11.96     |
| Relationship status | Married           | 31.36    | 5.77      |
|                     | De Facto          | 32.39    | 12.51     |
|                     | Single            | 43.77    | 9.66      |
| Employment status   | Working full time | 36.13    | 9.92      |
|                     | Working part time | 25.95    | 7.48      |
|                     | Not working       | 44.89    | 11.59     |

*Note.* The LBQ is scored from 15 – 75, therefore mean total scores will be within this range, higher scores indicate less balanced lifestyle.

The LBQ mean total scores appear to improve (i.e. decrease) on average from the 1<sup>st</sup> age group (25 or under,  $M = 48.39$ ,  $SD = 9.11$ ) and the 2<sup>nd</sup> (26 – 40,  $M = 35.05$ ,  $SD = 11.70$ ), then improves again to the 3<sup>rd</sup> group (41 – 55,  $M = 34.78$ ,  $SD = 8.62$ ) but to a lesser extent (refer Table 1). The differences were not significant ( $t(12) = 2.0$ ,  $p > .05$ , two-tailed and  $t(19) = 0.06$ ,  $p > .05$ , two-tailed, respectively). However there was a significant difference between the means of the 25 and under age group and the 41 – 55 age group  $t(13) = 2.7$ ,  $p < .05$ , two-tailed.

LBQ scores across gender were similar ('male',  $M = 37.58$ ,  $SD = 10.74$ , 'female',  $M = 35.75$ ,  $SD = 11.96$ ) (refer Table 1). The difference between means was not significant,  $t(23) = 0.4$ ,  $p > .05$ , two-tailed. There seemed to be little difference between being married ( $M = 31.36$ ,  $SD = 5.77$ ) or being in a de facto relationship ( $M =$

32.39,  $SD = 12.51$ ) and this difference was not significant ( $t(12) = -0.21, p > .05$ , two-tailed). In relation to the LBQ total scores, however, the single status category ( $M = 43.77, SD = 9.66$ ) shows higher mean total score than being in a relationship to both married and de facto (refer Table 1), however only the difference in means was significant for the difference between married and single,  $t(17) = -3.23, p < .05$  and not significant for the other ( $t(15) = 2.10, p > .05$ , two-tailed, for de facto and single).

Participants in full time work ( $M = 36.13, SD = 9.92$ ), had a better (lower) lifestyle balance mean score than those in part time work ( $M = 25.95, SD = 7.48$ ), however this was not significant ( $t(18) = 1.39, p > .05$ , two-tailed). Both full time and part time work showed a lower mean score than those who had no work ( $M = 44.89, SD = 11.59$ ) (refer Table 1). Neither of these differences between means were significant,  $t(21) = -1.69, p > .05$ , two-tailed, for full time and no work and  $t(5) = -2.08, p > .05$ , two-tailed, for part time and no work.

No analysis was undertaken on the LBQ total score and ethnicity data as the number were too small and so no meaningful comparisons could be made.

## 4.8.2 Life Balance Inventory

Table 1.1

*LBI mean total score and standard deviation by Demographic Group.*

| <b>Demographic</b>  | <b>Group</b>      | <b>M</b> | <b>SD</b> |
|---------------------|-------------------|----------|-----------|
| Age                 | 25 or under       | 110.77   | 14.58     |
|                     | 26 - 40           | 116.09   | 21.09     |
|                     | 41 - 55           | 116.05   | 17.05     |
| Gender              | Male              | 114.80   | 17.95     |
|                     | Female            | 116.30   | 18.95     |
| Relationship status | Married           | 115.54   | 13.57     |
|                     | De Facto          | 129.32   | 22.46     |
|                     | Single            | 107.29   | 13.95     |
| Employment status   | Working full time | 114.78   | 18.83     |
|                     | Working part time | 121.46   | 24.69     |
|                     | Not working       | 114.29   | 15.19     |

*Note.* The LBI is scored from 53 – 159, higher scores indicating better life balance.

LBI showed mean scores for the three age groups in this sample were very similar, 25 or under ( $M = 110.77$ ,  $SD = 14.58$ ), 26 – 40 ( $M = 116.09$ ,  $SD = 21.09$ ), 41 – 55 ( $M = 116.05$ ,  $SD = 17.05$ ), (refer Table 1.1). T-tests confirmed no significant difference between means,  $t(12) = -0.48$ ,  $p > .05$ , for 25 or under and 26 – 40,  $t(19) = 0.005$ ,  $p > .05$ , for 26 – 40 and 41- 55,  $t(13) = -0.55$ ,  $p > .05$ , for 25 or under and 41 - 55. All tests were two-tailed.

There was no difference between groups on mean LBI total score across gender (Male,  $M = 114.8$ ,  $SD = 17.95$ , Female,  $M = 116.3$ ,  $SD = 18.95$ ) (refer Table 1.1),  $t(23) = -0.19$ ,  $p > .05$ , two-tailed.

There were differences in mean scores on the LBI across relationship status. The single category had the lowest mean ( $M = 107.29$ ,  $SD = 13.95$ ), followed by the being

married ( $M = 115.53$ ,  $SD = 13.57$ ) and finally the de facto category ( $M = 129.32$ ,  $SD = 22.46$ ) (refer Table 1.1). The difference was significant between only the de facto and single group means,  $t(15) = 2.51$ ,  $p < .05$ . It was not significant for differences between the other groups means, married and de facto and married and single,  $t(12) = -1.43$ ,  $p > .05$  and  $t(17) = 1.29$ ,  $p > .05$  respectively, all two-tailed tests.

Employment status showed no difference between mean scores between groups (refer Table 1.1). There were no significant differences between means. For full time work and part time work,  $t(18) = -.47$ ,  $p > .05$ . For the part time work and no work,  $t(5) = 0.49$ ,  $p > .05$ . For the full time work and no work,  $t(21) = 0.05$ ,  $p > .05$ , all two-tailed tests.

No analysis was undertaken on the LBI total score and ethnicity data as the number were too small and so no meaningful comparisons could be made.

### 4.8.3 Difficulties in Emotion Regulation Scale

Table 1.2

*DERS mean total score and standard deviation by Demographic group.*

| <b>Demographic</b>  | <b>Group</b>      | <b>M</b> | <b>SD</b> |
|---------------------|-------------------|----------|-----------|
| Age                 | 25 or under       | 110.50   | 29.85     |
|                     | 26 - 40           | 100.50   | 22.98     |
|                     | 41 - 55           | 104.00   | 22.47     |
| Gender              | Male              | 104.50   | 22.2      |
|                     | Female            | 101.43   | 26.88     |
| Relationship status | Married           | 92.88    | 23.25     |
|                     | De Facto          | 101.83   | 19.64     |
|                     | Single            | 112.45   | 22.91     |
| Employment status   | Working full time | 104.00   | 20.31     |
|                     | Working part time | 98.50    | 44.55     |
|                     | Not working       | 104.40   | 30.44     |

*Note.* The DERS questionnaire is scored from 36 – 180, higher score indicate less emotion regulation.

The mean DERS scores do not differ much according to age group, the means appear similar between the three age groups, 25 or under ( $M = 110.5$ ,  $SD = 29.85$ ), 26 – 40 ( $M = 100.5$ ,  $SD = 22.98$ ), 41 – 55 ( $M = 104.0$ ,  $SD = 22.47$ ), (refer Table 1.2). None of the differences between the means were significant ( $t(12) = 0.68$ ,  $p > .05$ , for 25 and under and 26 – 40. For 26 – 40 and 41 – 55,  $t(19) = -0.35$ ,  $p > .05$ , and for 25 and under and 41 – 55,  $t(13) = 0.46$ ,  $p > .05$ , all two-tailed).

Gender groups also did not differ in regards to mean DERS total score (refer Table 1.2), there was no significant difference between the means (Male,  $M = 104.50$ ,  $SD = 22.20$ , Female,  $M = 101.43$ ,  $SD = 26.88$ ),  $t(23) = 0.29$ ,  $p > .05$ , two-tailed.

Across relationship status, the married group had the lowest mean ( $M = 92.88$ ,  $SD = 23.25$ ), the de facto group had a higher mean ( $M = 101.83$ ,  $SD = 19.64$ ) and then the single group had a higher mean again ( $M = 112.45$ ,  $SD = 22.91$ ) (refer Table 1.1). None of the differences between means were significant,  $t(12) = -0.76$ ,  $p > .05$ ,  $t(15) = -0.96$ ,  $p > .05$  respectively. There was no difference between the means of married and single groups,  $t(17) = -1.83$ ,  $p > .05$ , all were two-tailed tests.

Employment status had little bearing on differences in mean scores on the DERS of the three groups, full time ( $M = 104.0$ ,  $SD = 20.31$ ), part time ( $M = 98.50$ ,  $SD = 44.55$ ), no work ( $M = 104.4$ ,  $SD = 30.44$ ) (refer Table 1.1),  $t(18) = 0.33$ ,  $p > .05$  for full time and part time,  $t(5) = -0.21$ ,  $p > .05$ , for part time and not working,  $t(21) = -0.04$ ,  $p > .05$ , for full time and not working, all two-tailed tests.

No analysis was undertaken on the DERS total score and ethnicity data as the number were too small and so no meaningful comparisons could be made.

#### 4.9 Relapse

More than half of the participants in this sample had had a relapse the week before starting the CADS Action Group (56% of participants relapsed at T1). Relapse here describes the Relapse category which is data from the relapse dichotomous yes/no variable.

#### **4.10 Relationship between Lifestyle Balance and Relapse (AIM2)**

To determine whether there is a relationship between two variables, lifestyle balance and relapse, chi-square and correlations were used. Initially chi-square to show associations between the two variables then point bi-serial correlation to ascertain more concrete and clear relationship size and direction. A point bi-serial was chosen over a bi-serial correlation as the relapse variable is believed to be truly dichotomous in this study, where a relapse is seen as any deviation from the individuals goal use, whether that be abstinence or controlled use. (Coolican, 2009, p.456)..

#### 4.10.1 Chi-square Lifestyle Balance Questionnaire and Relapse Category

A chi-square test was conducted to assess the relationship between the variables LBQ and relapse. Several options were explored to determine the most appropriate division for high and low scores on the LBQ, including using the mean, median and visual “cut points” (Williams, Mandrekar, Mandrekar, Cha & Furth, 2006, p.2). The median conformed best to the chi-square assumptions (not less than 20% of the boxes should have an expected count lower than 5).

Seventy seven percent (10/13) of those who scored highly on the LBQ (which would indicate poor lifestyle balance) had had a relapse in the past week; whereas 33% (4/12) of those who scored low on the LBQ (which would indicate good lifestyle balance) had had a relapse in the past week (see Table 2.0). The chi-square analysis returned a large significant result  $\chi^2 (df = 1, N = 25) = 4.8, p < .05$ , the effect size was large with  $phi = -.44$  (Coolican, 2009), this would indicate that there is some relationship between LBQ and relapse.

#### 4.10.2 Correlation Lifestyle Balance Questionnaire and Relapse Category

The relationship between the LBQ and relapse was further explored using a Point Bi-serial Correlation (normality is good and there are no outliers). The point bi-serial correlation is used as one of the variables is dichotomous (i.e. relapse = yes/no). The two scores correlated moderately and negatively,  $r_{pb} (23) = -.47, p < .05$ , which was significant. With an effect size of  $-.47$ , power was estimated at  $.63$  due to the small sample size, this is the probability of not making a type II error and is quite low (Wilson VanVoorhis & Morgan, 2007). Twenty two percent of the total variation in relapse T1 can be explained by LBQ T1.

#### 4.10.3 Chi-square Life Balance Inventory and Relapse Category

A chi-square test was conducted to assess the relationship between the variables LBI score and relapse. Various divisions for high and low scores on the LBI score were explored including using the mean, the median and a visual mid-point. The median was chosen, though there was no real difference between the mean, median and visual mid-point, as there is no indication of a real denominator value. Chi-square assumptions were met (Coolican, 2009).

The data showed only 38% (5/13) of those who scored highly on the LBI had had a relapse in the past week, where as 75% (9/12) of those who scored low on the LBI had had a relapse in the past week. However a  $\chi^2$  analysis was not significant,  $\chi^2$  ( $df = 1$ ,  $N = 25$ ) = 3.38,  $p > .05$ . The effect size was medium with  $\phi = .37$  (Coolican, 2009). The effect size shows how far the result has deviated from the expected outcome by chance, suggesting no difference between the groups.

#### 4.10.4 Correlation Life Balance Inventory and Relapse Category

For correlation all the assumptions were met (normality, outliers). The relationship between the LBI and relapse was further investigated using a Point Bi-serial Correlation. (Coolican, 2009, p.456). The two scores correlated strongly and positively,  $r_{pb} (23) = .59$ ,  $p < .01$ . Power was estimated at .80 which is reasonably good (Wilson VanVoorhis & Morgan, 2007). Thirty five percent of the variance in relapse is explained by the variance of the LBI.

These two tests produced contradictory results. The chi-square suggests no association whilst the Point Bi-serial suggests a relationship.

### 4.11 Relationship between Emotion Regulation and Relapse (AIM 3)

To determine whether there is a relationship between two variables, emotion regulation and relapse, chi-square and correlations were used. Initially chi-square to show associations between the two variables then point bi-serial correlation to ascertain more concrete and clear relationship size and direction.

#### 4.11.1 Chi-square Difficulties in Emotion Regulation Scale and Relapse Category

A chi-square test was conducted to assess the relationship between the variables DERS score and relapse. Various divisions for high and low scores on the DERS score were explored including using the mean, the median and a visual mid-point. Whilst the median gave a half and half split to the data similar to the mean, the mean was chosen as it seemed a more appropriate division based on chi-square assumptions (not less than 20% of the boxes should have less than 5).

Approximately 85% (11/13) of those who scored highly on the DERS relapsed; whereas only 25% (3/12) of those who scored low on the DERS relapsed. A  $\chi^2$  returned a significant difference between relapse/did not relapse frequencies across participants who scored either high or low scores on the DERS,  $\chi^2 (df = 1, N = 25) = 9.0, p < .05$ . The effect size was large with  $phi = -.60$  (Coolican, 2009). This shows that emotion regulation scores are associated with relapse.

#### 4.11.2 Correlation Difficulties in Emotion Regulation Scale and Relapse Category

The relationship between the DERS and relapse was further investigated using a Point Bi-serial Correlation, (assumptions met). The two scores correlated strongly and negatively,  $r_{pb} (23) = -.54, p < .05$ . Power was estimated at .75, this is the probability of not making a type II error and is reasonable (Wilson VanVoorhis & Morgan, 2007). Twenty nine percent of the variance in relapse is explained by the variance of the DERS. The researcher chose a one tailed test as the literature alludes to a certain direction relationship will be due to previous research (Fox et al., 2008).

## 4.12 Demographic information by the Relapse Category

This section will review the relationship between demographic qualities and relapse figures. Due to the small sample size it is not possible to make inferences but rather just look at the links between these factors. Chi-square analyses were undertaken, many of which do not meet suggested guidelines (not less than 20% of expected frequencies below 5). However these are managed by recommendations that should the suggested guidelines be not met, strategies such as reducing and setting the significance level to 1%, as the main issue is increased possibility of Type I errors which are reduced with a smaller significance level (Coolican, 2009). Also Coolican (2009) refers to Camilli and Hopkins (1978) who argue that chi-square is accurate and safe so long as sample size is greater than 20, as the guidelines may be too conservative. This sample is above this threshold ( $N = 25$ ) reducing the risk of Type II errors.

### 4.12.1 Age

In the age category it was found that 75% (3/4) of participants in the 25 or under age group had relapsed at T1. In the other age groups, this was closer to 50% (5/10 in the 26 - 40 age group, 6/11 in the 41 - 55 age group, see Figure 2.1).

A  $\chi^2$  analysis of the difference between the three age groups across the relapse category was not significant,  $\chi^2 (df = 2, N = 25) = .74, p = .01$ . The effect size was small with  $phi = 0.17$ . Therefore the null hypothesis of the variables being independent cannot be rejected.

### 4.12.2 Gender

Within the gender category 56% (10/18) of males relapsed and 57% (4/7) females relapsed.

A  $\chi^2$  analysis of the difference between the gender groups frequencies across relapse was not significant,  $\chi^2 (df = 1, N = 25) = .005, p = .01$ . The effect size was small

with  $\phi = -0.01$ . Therefore the null hypothesis of the variables being independent cannot be rejected.

#### 4.12.3 Relationship Status

Seventy five percent (8/11) of those who were single had had a relapse in the past week, 50% (4/8) of those that were married and 33% (2/6) of those in a de-facto relationship had relapsed in the past week at T1.

A  $\chi^2$  analysis of the difference between the relationship status groups frequencies across relapse was not significant,  $\chi^2 (df = 2, N = 25) = 2.62, p < .01$ . The effect size was small with  $\phi = .32$ . Therefore the null hypothesis of the variables being independent cannot be rejected.

#### 4.12.4 Employment Status

Approximately half of each group in the employment status category had relapsed in the past week at T1 (working full time, 56% (10/18) relapsed, working part time, 50% (1/2) and not working, 60% (3/5)).

A  $\chi^2$  analysis of the difference between the employment group frequencies across relapse was not significant,  $\chi^2 (df = 2, N = 25) = 0.06, p = .01$ . The effect size was small with  $\phi = .05$ . Therefore the null hypothesis of the variables being independent cannot be rejected.

#### 4.12.5 Ethnicity

No analysis was undertaken ethnicity data as the number were too small and so no meaningful comparisons could be made.

#### **4.13 Relationship between Lifestyle Balance and Emotion Regulation (AIM 4)**

This research was also looking at what relationship there may be between lifestyle balance and emotional regulation. As above, these relationships will be looked at first with the LBQ and then with the LBI.

##### 4.13.1 Correlation Lifestyle Balance Questionnaire and Difficulties in Emotion Regulation Scale

Spearman's rho correlation was used as heteroscedasticity assumptions were not met. The relationship between the LBQ and the DERS was not significant ( $r_s (df = 23) = .32, p > .05$ ). The estimated variance explained by DERS is 10% of the variance in LBQ scores.

##### 4.13.2 Correlation Life Balance Inventory and Difficulties in Emotion Regulation Scale

The relationship between the LBI and the DERS was investigated using a Spearman's rho Correlation (heteroscedasticity assumptions not met). The two scores correlated strongly and negatively ( $r_s (23) = -.54, p < .05$ ). This indicated that as LBI goes up (i.e. improves) so DERS goes down (i.e. also improves). Twenty nine percent of the variance in LBI scores is explained by the variance of the DERS.

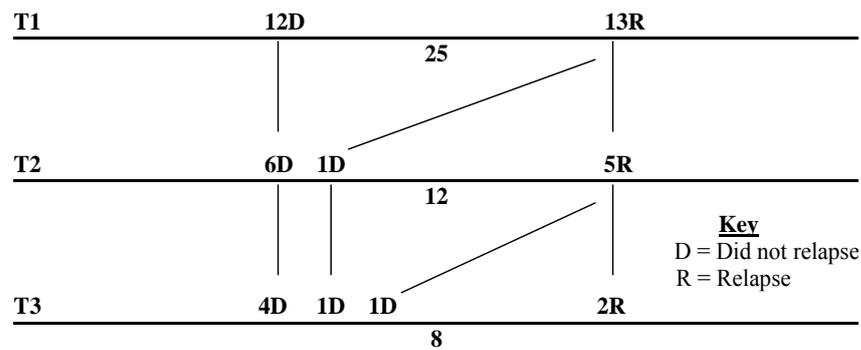
#### 4.14 Statistics with Time two (T2) and Time three (T3) included

The participant numbers decreased from time one to time three ( $N = 12$  at T2, and  $N = 8$  at T3), however some descriptive statistics are appropriate.

4.14.1 Relapse for Time one (T1) and Time two (T2) (for those who completed T2)

Table 2

*Participants who Relapsed versus Did not Relapse over the three time periods (T1, T2 and T3)*



*Note. Figure denotes the participants who relapsed versus those that did not over three time periods.*

*Note. T1 (N = 25), T2 (N = 12), and T3 (N = 8)*

Half (50%) of the 12 participants who have completed questionnaire packs at T1 and T2 did not have a relapse at T1. Fifty eight percent (7/12) of the same 12 participants did not relapse at T2. Of the 50% of participants who completed T1 and T2 and had a relapse, only 1 did not relapse again at the next time period, 17% (1/6). The one person who relapsed at T1, then did not at T2 maintained this at T3. All those who did not relapse at T1 (N = 6) also did not relapse at T2.

Eight participants completed questionnaire packs at T1, T2 and T3. Seventy five percent (6/8) of the 8 participants did not relapse at T3. All those who did not relapse at T2, and completed T3, also did not relapse at T3. Of those who relapsed at T2 (5/12) and completed T3 pack (3/5), 33% (1/3) did not relapse at T3.

#### 4.14.2 Questionnaire score (LBQ, LBI and DERS) between Time one (T1) and Time two (T2)

The following is a review of the mean total questionnaire scores (LBQ, LBI and DERS) from T1 to compare with T2 in this sample ( $N = 12$ ). The sample met the assumptions of normality and homogeneity required to do related t-tests.

Table 2.1

*Questionnaire (LBQ, LBI and DERS) mean score for T1 and T2 ( $N = 12$ )*

| Questionnaire | T1     |       | T2     |       |
|---------------|--------|-------|--------|-------|
|               | M      | SD    | M      | SD    |
| LBQ           | 34.3   | 10.39 | 29.26  | 7.41  |
| LBI           | 116.48 | 17.02 | 131.49 | 13.73 |
| DERS          | 101.67 | 24.91 | 87.58  | 25.13 |

*Note.* LBQ total score ranges from 15 – 75. LBI total score ranges from 53 – 159. DERS total score ranges from 36 – 180.

##### 4.14.2.1 LBQ

There was no statistically significant difference between the means of the LBQ at T1 ( $M = 34.30$ ,  $SD = 10.39$ ) and T2 ( $M = 29.26$ ,  $SD = 7.41$ ),  $t(11) = 2.03$ ,  $p > .05$ , two-tailed. This indicates that there is not a difference in mean LBQ score at T1 and T2.

##### 4.14.2.2 LBI

There was a statistically significant difference between the means of the LBI at T1 ( $M = 116.48$ ,  $SD = 17.02$ ) and T2 ( $M = 131.49$ ,  $SD = 13.73$ ) (refer Table 5.0),  $t(11) = 2.51$ ,  $p < .05$ , two-tailed. This indicates that there is a difference in mean LBI score at T1 and T2.

#### 4.14.2.3 DERS

There was a statistically significant difference between the means of the DERS at T1 ( $M = 101.67$ ,  $SD = 24.91$ ) and T2 ( $M = 87.58$ ,  $SD = 25.13$ ),  $t(11) = -3.11$ ,  $p < .05$ , two-tailed. This indicates that there is a difference in mean DERS score at T1 and T2.

#### 4.14.3 Relapse Category compared to Questionnaire Score (LBQ, LBI and DERS) at Time one (T1) and Time two (T2)

What will be reviewed in this section is the total mean scores from each of the questionnaires (LBQ, LBI and DERS) from different groups (Relapsed at T1 and T2, Did not Relapse at T1 or T2), the data therefore is split here into the two relapse groups, relapsed (those that relapsed at T1 and T2 ( $N = 5$ )) and did not relapse (those that did not relapse at T1 or T2 ( $N = 6$ )), and comparing means between T1 and T2. As the sample size is too small to do formal tests, description of the statistics will follow.

Table 2.2

*Questionnaire (LBQ, LBI and DERS) total score mean by group (Relapsed at T1, Relapsed at T1 and T2, Did not Relapse at T1 or T2) across T1 and T2.*

| Questionnaire | Relapse status  | (T1)   |       | (T2)   |       |
|---------------|-----------------|--------|-------|--------|-------|
|               |                 | M      | SD    | M      | SD    |
| LBQ           | Relapsed        | 44.10  | 8.13  | 33.81  | 5.97  |
|               | Did not Relapse | 27.51  | 4.39  | 24.58  | 6.29  |
| LBI           | Relapsed        | 103.47 | 17.16 | 122.54 | 18.20 |
|               | Did not Relapse | 125.97 | 10.55 | 137.92 | 3.54  |
| DERS          | Relapsed        | 126.20 | 8.11  | 111.00 | 19.40 |
|               | Did not Relapse | 86.83  | 14.84 | 72.33  | 11.41 |

*Note.* LBQ total score ranges from 15 – 75. LBI total score ranges from 53 – 159. DERS total score ranges from 36 – 180.

There appears to be an improvement in all of the questionnaires (LBQ, LBI and DERS), both over time and at each time period between the Relapsed and Did not Relapse groups indicating that the Did not Relapse group had a better score in all questionnaires, and in each time period. This also indicates that whether in the Relapsed or Did not Relapse group, all questionnaire scores increased. Some of the standard deviations fluctuated more than others, for example DERS – Relapsed – T1 and T2, LBI – Did not Relapse – T1 and T2 and LBI – T2 – Relapsed and Did not Relapse.

## *Chapter V*

### DISCUSSION

This study explored the relationship between lifestyle balance and relapse, and emotion regulation and relapse as well as the relationship between lifestyle balance and emotion regulation within a drug and alcohol population. Some encouraging results were found and they will be discussed by variable. Following this limitations and future directions will be discussed.

#### 5.1 Lifestyle Balance

Lifestyle balance has been described as a number of factors which together are related to health and well-being for an individual (Matuska & Christiansen, 2008) and has been related to variables such as physical needs, social support, emotions and purpose (Larimer et al., 1999). However, measuring lifestyle balance has been relatively limited, and measuring it in a drug and alcohol population, almost non-existent. Therefore, this study explored a newly developed questionnaire to determine its psychometric properties. It was found to have good face, content, discriminant and concurrent validities and consistencies. Even with this small sample size it showed promising results. Given this measure was used in a clinical setting with the purpose of monitoring change, it may be that this measure is more suitable for use in this drug and alcohol population than the more generally developed LBI, however both seem to relate to relapse to a similar degree.

#### 5.2 Lifestyle Balance and Relapse

Results suggest a relationship between lifestyle balance and relapse, indicating that as lifestyle balance improves, relapse decreases. This was based on results from the LBQ and LBI, the LBQ provided results which suggest a significant relationship. Lifestyle balance, as measured by the LBI, also produced results which demonstrated

this relationship. However, the results were mixed, unlike the LBQ. The chi-square is not statistically significant ( $\chi^2 (1, 25) = 3.38, p > .05$ ) for a relationship between the LBI and relapse; however, the point bi-serial correlation indicated that there is a strong relationship ( $r_{pb} (23) = .59, p < .01$ ). This correlation, as with that of the LBQ, suggests that better lifestyle balance is related to relapse, such that as lifestyle balance improves relapse decreases. The non-significant chi-square result may possibly be explained by decisions to use the median to determine the cut point between high and low. Although this method provided the best results in terms of meeting the assumptions for the various tests, perhaps other methods may have been more significant. Alternatively, sample size may be an important factor in this result as chi-square can be less robust when sample numbers are small, even when these conform to recommendations (Coolican, 2009).

### 5.3 Emotion Regulation and Relapse

Emotion regulation has been linked to relapse through the relapse prevention model (Larimer et al., 1999; Marlatt & George, 1984) and is considered important in drug and alcohol populations (Berking et al., 2011). This relationship was also established in this study with a New Zealand drug and alcohol population sample. This is the first time the DERS has been used in a NZ population and results suggest it is appropriate for use. The chi-square analysis suggested there is an association between the two variables such that a high score (i.e. have poor emotion regulation abilities) are relapsing more compared to those getting a low score. Further analysis indicated that the relationship is negative, such that as the DERS score (and therefore emotion regulation) reduces relapse decreases. This adds support to findings by Fox, Axelrod, Paliwal, and Sinha (2007) who found a relationship between emotion regulation and relapse vulnerability to cocaine, and Fox et al. (2008) who found a relationship between emotion regulation and relapse to alcohol. This might suggest that teaching emotion regulation skills to individuals with drug and alcohol problems may be appropriate to reduce their rates of relapse.

#### 5.4 Lifestyle Balance and Emotion Regulation

The study found a very minimal relationship between LBQ and DERS and a possible relationship between LBI and DERS. While the sample size was insufficient to explore this fully, but the relationship between lifestyle balance and emotion regulation makes some intuitive sense and was explored on this basis. The correlation analyses indicated that the LBQ was only weakly related to the DERS ( $r_s (df = 23) = .32, p > .05$ ), and the LBI and DERS were more strongly related ( $r_s (23) = -.54, p < .05$ ), suggesting lifestyle balance improves emotion regulation also improves. These results suggest there may be a relationship between lifestyle balance and emotion regulation where improvement in some factor (possibly lifestyle balance and/or emotion regulation) for the individual, or a number of factors, is producing positive change in both lifestyle balance and emotion regulation, and this affect is possibly just weaker on the LBQ. As participants are current service users of CADS and would have just completed a four week Getting Started group, it might be a treatment affect. The treatment may be teaching skills which improve lifestyle balance and emotion regulation. Future research could explore this relationship further and might suggest the importance of teaching both lifestyle balance skills and emotion regulation skills.

#### 5.5 Lifestyle Balance (LBQ and LBI)

The research results suggest that the LBI has a stronger relationship with relapse than the LBQ. This is somewhat expected as the LBQ was developed specifically for use with this population while the LBI was developed to test life balance in a general population. This result may also be due to the LBQ measure being based more upon needs being met in this particular population, whilst the LBI is based around time within specific activity categories. What the result may indicate is that the LBI is more appropriate for use in this drug and alcohol population, however they are very similar in relation to the strength of the relationship to relapse.

## 5.6 Demographic Information

Relapse rates were analysed between demographically defined groups, where possible, and show no statistically significant relationships. Previous research had demonstrated support for an age group and relapse connection (Domino et al., 2005; Rollins et al., 2005) however, this is not supported here. It is possible that the age cut offs utilized may have influenced these results, as they may not have captured truly different groups.

There are few statistically significant differences for the life style balance variables and demographic variables. However, the 41 – 55 age group shows a statistically significant better lifestyle balance than the 25 or under age group. This was expected according to Higgins, Duxbury, and Lee (1994) who found better lifestyle balance for both men and women as age increased. In addition, the married group have a better lifestyle balance than the single group. This again is as expected as married men and women are reportedly happier in general and less stressed than single people (Coombs, 1991). There is no difference in lifestyle balance when employment groups are compared. This is an unexpected result as employed participants have been shown to have better well-being than unemployed participants (Winfield & Tiggemann, 1990). However, these statistically significant findings are not repeated with the LBI, this is likely due, in part, to the LBQ measure being based more upon needs being met in this particular population, whilst the LBI is based around time within specific activity categories.

No differences are found in the demographic variables with respect to emotion regulation. These results were contrary to expectations as age has been demonstrated to be related to emotion regulation (Blanchard-Fields, Stein, & Watson, 2004; Silvers et al., 2012) along with gender, such that females have been reported to have better emotion regulation (McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008). However, most previous research has been conducted on general populations, so these differences may not be relevant to this drug and alcohol population.

## 5.7 Relapse

The relapse statistics show that just over half of the participants have had a relapse in the week prior to their first Action Group with CADS, this is despite already being in the Getting Started group. The rates of relapse of this study are at the lower end, compared to other studies, where 50 – 90% relapse rates were found in relation to addiction to substances (Hunt et al., 1971; Hunt & Matarazzo, 1973; Marlatt & Gordon, 1980, 1985, cited in Brownell, Marlatt, Lichtenstein, & Wilson, 1986). However, the statistics from these studies consider relapse within a 6 – 12 month period after treatment and are from studies over 25 years ago. More recently Schmitz et al. (2004) showed a 22 – 47% relapse in the first four weeks of treatment for cocaine and alcohol abuse. This is more comparable to the baseline result found in this study which may indicate that the client being referred to this CADS treatment service are above average in relation to their difficulties with addiction and relapse.

## 5.8 Time two

Lastly, time two results are discussed. This section focuses on only the 12 participants who have filled in questionnaire packs at both time one and time two. The small sample size here was still a consideration and one that will reduce analyses and inferences as well as make any descriptions and statistics done, more cautiously discussed. These results give an interesting look to future of this research.

LBI changed over time meaning that lifestyle balance improves between time one and time two. This might provide some support for the impact that the intervention is having on lifestyle balance. The DERS also changed over time, indicating that emotion regulation also improved over time. This again provides possible indication that the intervention is having a positive effect. What this indicates, as above, the treatment the participants are receiving may be teaching skills which improve lifestyle balance and emotion regulation. Future research could explore this relationship further and might suggest the importance of teaching both lifestyle balance skills and emotion regulation skills.

Of the 12 participants who completed time one and time two, exactly half had relapsed at time one (6/12), this is similar to the results of the entire sample at time one (56% relapsed, 13/25). Then, at time two, 42% (5/12) relapsed. A reduction in relapse rates over time is a positive result for this sample. This may indicate that relapse rates are improving over time for those who remain in the CADS Action group.

When the difference between the time periods one and two were reviewed in relation to relapse, descriptive statistics were used, as the participants were split into two groups for comparison. Group one, which relapsed at time one and time two ( $N = 5$ ) and group two that did not relapse at time one or time two ( $N = 6$ ). In such groups the sample size is far too small to complete statistical analysis with any degree of confidence. However, descriptively, the data seemed to suggest that the half of the 12 participant sample group, which did not relapse at time one, are able to maintain this goal at time two, and show a relapse rate of 0%. When the portion of participants that relapsed at time one ( $N = 6$ ) are reviewed, it is found that 83% (or 5/6) relapsed again at time two. What this might suggest is that those who are not relapsing, maintain this over time through the Action group.

With regards to lifestyle balance and emotion regulation and the relapse/did not relapse groups there were differences. This provides support that there is some difference on these measures between the participants who relapsed and those that did not. The group who did not relapse had a better LBQ score, have a better LBI score and a better DERS score. This outcome is repeated at time two. This gives an indication that the relapse groups are different, and this difference is consistent over time and participants who are not relapsing are doing better in terms of their lifestyle balance and emotion regulation. However, these results again are taken within the context of sample size, but indicate for future research that there could be beneficial relationships here which are useful for treatment and contribute to understanding links between concepts and relapse.

Of the 37 participants began the CADS Action Group (from the 22<sup>nd</sup> of August 2012 until 1<sup>st</sup> March 2013, a total of 27 weeks, 1.37 responses per week). As the total number of responses was 26, this research achieved a 73% response rate, which is above

average for other studies (weighted average response rate 49.6% counselling and clinical psychology, Van Horn, Green, & Martinussen, 2008; 55.6% in academic studies, Baruch, 1999). A number of factors may have contributed to this good response rate, some of which have already been demonstrated in the literature. Firstly, the CADS collaborator personally invited each participant to the research during the regular invitation to the Action group which increases response (VanGeest & Johnson, 2011). This was a week before participants were required to complete the first questionnaire pack and so gave sufficient time for consideration of joining the study which increases response (Edwards et al., 2007). Another strategy to improve response rate was an effort to make the questionnaire packs as brief as possible and provide a clear indication for participants of the time commitment required to complete them, also important to increase response (VanGeest, Johnson, & Welch, 2007). Lastly, the information pack clearly linked this research with making a contribution, by connecting the research to improved services in the future and benefit to others (Beck, 2005).

## 5.9 Limitations

A limitation of this study is its sample size. The small sample size did not allow for a few of the analyses that were anticipated (especially factor analysis of the LBQ) and constrained the exploration of relationships between all three variables (log linear regression and logistic regression). An attempt to address this issue by increasing the data collection timeframe to over 6 months, was unfortunately largely unsuccessful. The research would have been more comprehensive if the study had a longer data collection phase available, for example 8 – 10 months.

Sample size affects the ability to interpret the age and relapse findings where small groups were compared, but also made it difficult to meet the assumption of  $\chi^2$ . For example, all demographic groups, except gender, had more than three groups which made it unlikely that chi-square assumptions such as no less than 20% of the cells should have an expected count of less than five could be met. However, this was partially managed by following recommendations to use a one percent significance level to reduce the chance of Type I errors, and that sample sizes greater than 20 are generally considered appropriate and reduce Type II errors (Coolican, 2009). Ethnicity

relationships were not investigated as this had only five groups and would be inappropriate to analyse. All results should be interpreted with caution.

Also a potential problem with this study is non-response bias at time one, it is not known why people chose not to participate and they be somewhat different for the study participants. Also as time progressed it is unknown whether participants have chosen not to participate or dropped out of the CADS Action group program. This problem of drop-out is a significant one within the drug and alcohol sector (Monahan, 2010) and a limitation of this research. Those who do not respond may have a particular group make up, as was evidenced in a study by Smith and Nutbeam (1990) whose non responders were found to be different to the initial responders.

A number of items on the LBQ and LBI were reported n/a or “no”. This could be a problem because it causes biases through discarding of data (Shrive, Stuart, Quan, & Ghali, 2006) or skewing of results (Scheffer, 2002) if not dealt with. This was partly attempted to be managed by, for all questionnaires, confidentiality was clearly described to participants through the information sheet which is believed to be important in lowering item non-response bias for sensitive data (Singer, Von Thurn, & Miller, 1995). In addition, the mean imputation method (Scheffer, 2002) was employed to attempt to resolve this issue and was deemed appropriate (Peyre, Leplege, & Coste, 2011).

The relapse questionnaire specifically asked participants to answer yes or no with regards to whether they felt they had had a relapse in the past week or not. The time between questionnaire administrations is three to four weeks, this may have prevented possible participant relapses being identified at time two and time three, because there are two or more weeks in between where the participant may or may not have relapsed. This data was not captured and could make the results misleading. A change to questionnaire wording or increasing regularity of administration is suggested for future research.

## 5.10 Future implications

The LBQ was originally developed as both a treatment tool and the researcher developed it into a measurement tool. Future research could focus on further developing the LBQ for this dual purpose to help client and service provider alike to identify problems in a certain area of the client's life, and also to increase the client's self-awareness of the areas which are important (or lacking) in a balanced life. This in turn could lead to strategies to reduce relapse.

This research presents support that there is a relationship between lifestyle balance and relapse, it is now recommended that future research further develops the links between the two and begins exploration of methods to improve lifestyle balance. As a start it would be advantageous to replicate this study in similar drug and alcohol groups within CADS such as, the 65+ (Older persons) group, the Altered High (Youth) group or the Getting Started group as these groups work at different levels of treatment and are different demographic groups.

Emotion regulation has increasingly been related to relapse; this was confirmed in this study. The DERS usefulness in other studies and potential to support positive change in emotion regulation is worth the continued investigation into the use of it in CADS Action groups, particularly the DERS. With further testing, the LBQ (and/or LBI) and DERS together may provide useful tools in helping clients to achieve greater self-awareness as well as achieving their goals of not relapsing. Directing future research to measurement and treatment of these could open the door to alternative relapse prevention strategies, and widen the scope of treatments already based on this concept. It could also lead to many different avenues of research including with CADS.

The research indicates that the CADS treatment processes may be improving relapse rates and that remaining in the Action group maintains or increases the chance of not relapsing. These results were speculative, especially at time three, but suggest that there may be an important effect with potential to provide further evidence to support the utility of these groups and future research could design a controlled trial of the Action group to determine treatment efficacy.

The improvement in relapse rates also appeared linked to improvements in lifestyle balance and emotion regulation, over time. This suggests that improvements in one concept might be related to the other, that for some reason there are improvements for participants over time, perhaps due to the CADS treatment process, and that this improvement is happening alongside an improvement in relapse (decrease). A larger sample size, should this study be replicated, would provide stronger exploration into these potential relationships.

## *Chapter VII*

### CONCLUSION

The findings of the current study begin to fill gaps in the literature related to potential relapse prevention factors for individuals with drug and alcohol problems and have the capacity to focus future interventions and research. As discussed, lifestyle balance and emotion regulation have been identified as important to relapse but only been minimally tested, this study adds to the understanding of the relationships between lifestyle balance and emotion regulation to relapse. These relationships indicate that improvements in both lifestyle balance and emotion regulation relate to an improvement in relapse rate (decrease). The study also indicates that emotion regulation may be minimally related to lifestyle balance, and that a new lifestyle balance questionnaire has appropriate psychometric properties for use with individuals with drug and alcohol problems. These indications, despite the limitations, suggest to clinicians the usefulness of lifestyle balance and emotion regulation to relapse prevention. The study confirms use of the LBQ within CADS North Action group as appropriate and suggests this group may be beneficial for individuals with drug and alcohol problems. Further research into the relationships is recommended with larger sample sizes.

## REFERENCES

- Adinoff, B., Talmadge, C., Williams, M. J., Schreffler, E., Jackley, P. K., & Krebaum, S. R. (2010). Time to Relapse Questionnaire (TRQ): A measure of sudden change. *The American Journal of Drug and Alcohol Abuse* 36, 140–149.
- Agosti, V., Nunes, E., & Ocepeck-Welikson, K. (1996). Patient factors related to early attrition from a outpatient cocaine research clinic. *Drug Alcohol Abuse*, 22(1), 29-30.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Health Disorders*. (4<sup>th</sup> ed.). Washington DC: Author.
- Auerbach, R. P., Claro, A., Abela, J. R., Zhu, X., & Yao, S. (2010). Understanding risky behavior engagement amongst chinese adolescents. *Cogn Ther Res* 34, 159-167.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review* 84(2), 191-215.
- Baruch, Y. (1999). Response reate in academic studies - A comparative analysis. *Human Relations*, 52(4), 421-438.
- Baum, A., Garofalo, J. P., & Yali, A. M. (1999). Socioeconomic status and chronic stress does stress account for SES effects on health? *Annals New York Academy of Sciences*, 131-144.
- Beck, C. T. (2005). Benefits of participating in internet interviews: Women helping women. *Qualitative Health Research*, 15(3), 411-422.
- Becker, H. C. (2008). Alcohol Dependence, Withdrawal, and Relapse. *Alcohol Research & Health* 31(4), 348-361.
- Berking, M., Margraf, M., Ebert, D., Wupperman, P., Hofmann, S. G., & Junghanns, K. (2011). Deficits in Emotion-Regulation skills predict alcohol use during and after Cognitive–Behavioral Therapy for Alcohol Dependence. *Journal of Consulting and Clinical Psychology* 79(3), 307–318.
- Berset, M., Elfering, A., Luthy, S., Luthi, S., & Semmer, N. K. (2010). Work stressors and impaired sleep: Rumination as a mediator. *Stress and Health*, 27, 71-82.
- Blanchard-Fields, F., Stein, R., & Watson, T. L. (2004). Age differences in Emotion-Regulation strategies in handling everyday problems. *Journal of Gerotology*, 59(6), 261-269.

- Bourgain, C., Falissard, B., Blecha, L., Benyamina, A., Karila, L., & Reynaud, M. (2012). A damage/benefit evaluation of addictive product use. *Addiction, 107*, 441-450.
- Brackett, M. A., Palomera, R., Mojsa-Kaja, J., Reyes, M. R., & Salovey, P. (2010). Emotion-regulation ability, burnout, and job satisfaction among British secondary-school teachers. *Psychology in the Schools 47*(4), 406-417.
- Brady, K. T., & Sonne, S. C. (1999). The role of stress in alcohol use, alcoholism treatment, and relapse. *Stress and Alcohol Use, Alcoholism Treatment, and Relapse 23*(4), 263-271.
- Brown, S. A., & Ramo, D. E. (2006). Clinical course of youth following treatment for alcohol and drug problems. In H. A. Liddle, & C. L. Rowe, *Adolescent Substance Abuse: Research and Clinical Advances* (pp. 79-103). New York: Cambridge University Press.
- Brown, S. A., Vik, P. W., & McQuaid, J. R. (1990). Severity of psychosocial stress and outcome of alcoholism treatment. *Journal of Abnormal Psychology, 99*(4), 344-348.
- Brownell, K. D., Marlatt, G. A., Lichtenstein, E., & Wilson, G. T. (1986). Understanding and preventing relapse. *American Psychologist, 41*(7), 765-782.
- Camilli, G., & Hopkins, K. D. (1978). Applicability of chi-square to 2 x 2 contingency tables with small expected cell frequencies. *Psychological Bulletin, 85*(1), 163-167.
- Carey, K. B. (1995). Alcohol-related expectancies predict quantity and frequency of heavy drinking among college students. *Psychology of Addictive Behaviours, 9*(4), 236-241.
- Casciano, R., & Massey, D. S. (2012). Neighborhood disorder and anxiety symptoms: New evidence from a quasi-experimental study. *Health and Place, 18*, 180-190.
- Christiansen, C. H., & Matuska, K. M. (2006). Lifestyle Balance: A Review of Concepts and Research. *Journal of Occupational Science 13*(1), 49-61.
- Chung, T., & Maisto, S. A. (2006). Relapse to alcohol and other drug use in treated adolescents: Review and reconsideration of relapse as a change point in clinical course. *Clinical Psychology Review 26*, 149-161.
- Cohen, J. (1988). In *Statistical power analysis for the Behavioural Sciences*. San Diego: Academic Press.

- Cohn, A. M., McCrady, B. S., Epstein, E. E., & Cook, S. M. (2010). Men's avoidance coping and female partner's drinking behavior: A high-risk context for partner violence? *J Fam Viol* 25, 679-687.
- Cole, P. M., Zahn-Waxler, C., & K. Danielle Smith, K. D. (1994). Expressive control during a disappointment: Variations related to Preschoolers' behavior problems. *Developmental Psychology* 30(6), 835-846.
- Community Alcohol and Drug Services (CADS) Auckland. (2003). *Community Alcohol and Drug Services (CADS) Auckland*. Retrieved from CADS.org.nz: <http://www.cads.org.nz>
- Condiotte, M. M., & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. *Journal of Consulting and Clinical Psychology* 49(5), 648-658.
- Connor, J., Broad, J., Rehm, J., Hoorn, S. V., & Jackson, R. T. (2005). The burden of death, disease, and disability due to alcohol in New Zealand. *New Zealand Medical Journal*, 118(1213), 1-12.
- Coolican, H. (2009). *Research methods and statistics in psychology*. London: Hodder Education.
- Coombs, R. H. (1991). Marital status and personal well-being: A literature review. *Family Relations*, 40(1), 97-102.
- Cote, S., DeCelles, K. A., McCarthy, J. M., Van Kleef, G., & Hideg, I. (2011). The Jekyll and Hyde of Emotional Intelligence : Emotion-Regulation knowledge facilitates both prosocial and interpersonally deviant behavior. *Psychological Science* 22(8), 1073–1080.
- Csikszentmihalyi, M. (1997). *Finding flow: The psychology of engagement with everyday life*. New York: Basic Books.
- Curry, S., Marlatt, G. A., & Gordon, J. R. (1987). Abstinence Violation Effect: Validation of an attributional construct with smoking cessation. *Journal of Consulting and Clinical Psychology*, 55(2), 145-149.
- De Rooij, S. R., Costello, P. M., Veenendaal, M. V., Lillycrop, K. A., Gluckman, P. D., Hanson, M. A., . . . Roseboom. (2012). Associations between DNA methylation of a glucocorticoid receptor promoter and acute stress responses in a large healthy adult population are largely explained by lifestyle and educational differences. *Psychoneuroendocrinology*, 37, 782-788.

- Decamps, G., Scroccaro, N., & Battaglia, N. (2009). Ways of coping, addictive overlaps and relapses amongst abstinent alcoholics. *Annales Medico-Psychologiques* 167, 491-496.
- Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry* 11(4), 227-268.
- Delgado, M. R., Gillis, M. M., & Phelps, E. A. (2008). Regulating the expectation of reward via cognitive strategies. *Nature Neuroscience*, 11(8), 880-881.
- Dennis, T. A., & Kelemen, D. A. (2009). Preschool children's views on emotion regulation: Functional associations and implications for social-emotional adjustment. *International Journal of Behavioral Development* 33(3), 243–252.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575.
- Domino, K. B., Horndein, T. F., Polissar, N. L., Renner, G., Johnson, J., Alberti, S., & Hankes, L. (2005). Risk factors for relapse in health care professionals with substance use disorders. *American Medical Association*, 293(12), 1453-1460.
- Edwards, P., Roberts, I., Clarke, M., DiGuseppi, C., Pratap, S., Wentz, R., . . . Cooper, R. (2007). Increasing response to postal questionnaires. *International Journal of Epidemiology*, 36, 966-968.
- Evenden, J. L. (1999). Varieties of impulsivity. *Psychopharmacology*, 146, 348-361.
- Evren, C., Durkaya, M., Evren, B., Dalbudak, E., & Cetin, R. (2012). Relationship of relapse with impulsivity, novelty seeking and craving. *Drug and Alcohol Review* 31, 81–90.
- Ferguson, M., Carlson, D., Zivnuska, S., & Whitten, D. (2012). Support at work and home: The path to satisfaction through balance. *Journal of Vocational Behavior* 80, 299–307.
- Foster, J. H., Marshall, E. J., & Peters, T. J. (1998). Predictors of relapse to heavy drinking in alcohol dependent subjects following alcohol detoxification - The role of quality of life measures, ethnicity, social class, cigarette and drug use. *Addiction Biology*, 3, 333-343.
- Fox, H. C., Axelrod, S. R., Paliwal, P., Sleeper, J., & Sinha, R. (2007). Difficulties in emotion regulation and impulse control during cocaine abstinence. *Drug and Alcohol Dependence* 89, 298–301.

- Fox, H. C., Hong, K. A., & Sinha, R. (2008). Difficulties in emotion regulation and impulse control in recently abstinent alcoholics compared with social drinkers. *Addictive Behaviors* 33, 388–394.
- Frankl, V. E. (1984). *Man's search for meaning*. New York: Washington Square.
- Fulghum, R. (1988). *All I really need to know I learnt in kindergarden*. Ballentine Books.
- Garland, E. L., Gaylord, S. A., Boettiger, C. A., & Howard, M. O. (2010). Mindfulness training modifies cognitive, affective, and physiological mechanisms implicated in alcohol dependence: Results of a randomized controlled pilot trial. *Journal of Psychoactive Drugs* 42(2), 177-192.
- Geithner, C. A., Albert, J. F., & Vincent, J. A. (2007). Personal Balance: Its importance and how to achieve it. *ACSM'S Health & Fitness Journal* 11(1), 7-14.
- Gelman, A., & Hill, J. (2007). *Data analysis using regression and multilevel/hierarchical models*. New York: Cambridge University Press.
- George, D., & Mallery, M. (2003). *Using SPSS for Windows step by step: A simple guide and reference*. Boston: Allyn & Bacon.
- Gilbert, D. G., Gilbert, B. O., & Schultz, V. L. (1998). Withdrawal symptoms; Individual differences and similarities across addictive behaviours. *Personal Individual Differences*, 24(3), 351-356.
- Gottheil, E., Sterling, R. C., & Weinstein, S. P. (1997). Pretreatment dropouts. *Journal of Addictive Diseases*, 16(2), 1-14.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment* 26(1), 41-54.
- Gratz, K. L., & Tull, M. T. (2010). The Relationship between Emotion Dysregulation and deliberate self-harm among Inpatients with substance use disorders. *Cogn Ther Res* 34, 544–553.
- Greenberger, D., & Padesky, C. A. (1995). *Mind over mood*. New York NY: The Guilford Press.
- Greenhaus, J. H., Collins, K. M., & Shaw, J. D. (2003). The relation between work–family balance and quality of life. *Journal of Vocational Behavior* 63, 510-531.
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39, 281-291.

- Gross, J. J. (2013). Emotion Regulation: Taking stock and moving forward. *Emotion*, 1-7.
- Gross, J. J., & John, O. P. (2003). Individual differences in two Emotion Regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology* 85(2), 348–362.
- Gross, J. J., & Thompson, R. A. (2006). Emotion Regulation: Conceptual Foundations. *Handbook of emotion regulation*, 1-49.
- Håkansson, C., & Matuska, K. M. (2010). How Life Balance is perceived by Swedish women recovering from a stress-related disorder: A Validation of the Life Balance Model. *The Journal of Occupational Science* 17(2), 112-119.
- Hariri, A. R., & Holmes, A. (2006). Genetics of emotion regulation: the role of the serotonin transporter in neural function. *TRENDS in Cognitive Sciences*, 10(4), 182-191.
- Havassy, B. E., Hall, S. M., & Wasserman, D. A. (1991). Social support and relapse: Commonalities among alcoholics, opiate users, and cigarette smokers. *Addictive Behaviours*, 16, 235-246.
- Hayward, L. M., Nixon, C., Jasper, M. P., Murphy, K. M., Harlan, V., Swirida, L., & Hayward, K. (2000). The process of restructuring and the treatment of obesity in women. *Healthcare for Women International* 21, 615-630.
- Heilman, R. M., Crisan, L. G., Houser, D., Miclea, M., & Miu, A. C. (2010). Emotion Regulation and Decision Making under risk and uncertainty. *Emotion* 10(2), 257–265.
- Herwig, U., Kaffenberger, T., Jäncke, L., & Brühl, A. B. (2010). Self-related awareness and emotion regulation. *NeuroImage* 50, 734–741.
- Hien, D. A., & Miele, G. M. (2003). Emotion-Focused coping as a mediator of maternal cocaine abuse and antisocial behavior. *Psychology of Addictive Behaviors* 17(1), 49-55.
- Higgins, C., Duxbury, L., & Lee, C. (1994). Impacts of life-cycle stage and gender on the ability to balance work and family responsibilities. *Family Relations*, 43, 144-150.
- Hodgins, D. C., el-Guebaly, N., & Armstrong, S. (1995). Prospective and retrospective reports of mood states before relapse to substance use. *Journal of Consulting and Clinical Psychology* Vol. 63, No. 3, 400-407.

- House, T. W. (2004). *National Drug Control Strategy: Update*. United States: The White House.
- Huebner, R. B., & Kantor, L. W. (2011). Advances in alcoholism treatment. *Alcohol Research & Health* 33(4), 295-299.
- Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical Education*, 38, 1212-1218.
- Kalia, M. (2002). Assessing the economic impact of stress - The modern day hidden epidemic. *Metabolism*, 51(6), 49-53.
- Kelly, J. F., Magill, M., & Stout, R. L. (2009). How do people recover from alcohol dependence? A systematic review of the research on mechanisms of behavior change in Alcoholics Anonymous. *Addiction Research and Theory* 17(3), 236–259.
- Kessler, R. C., Ormel, J., Petukhova, M., McLaughlin, K. A., Greif Green, J., Russo, L. J., . . . Üstün, T. B. (2011). Development of lifetime comorbidity in the World Health Organization World Mental Health Surveys. *Arch Gen Psychiatry* 68(1), 90-100.
- King, A. C., & Canada, S. A. (2004). Client-related predictors of early treatment drop-out in a substance abuse clinic exclusively employing individual therapy. *Journal of Substance Abuse Treatment*, 26, 189-195.
- Knapp, T. R. (1990). Treating ordinal scales as interval scales: An attempt to resolve the controversy. *Nursing Research*, 39(2), 121-123.
- Kochanska, G., Philibert, R. A., & Barry, R. A. (2009). Interplay of genes and early mother-child relationship in the development of self-regulation from toddler to preschool age. *Journal of Child Psychology and Psychiatry*, 50(11), 1331-1338.
- Kramer, M. K., Kriska, A. M., Venditti, E. M., Miller, R. G., Brooks, L. E., Burke, L. E., . . . Orchard, T. J. (2009). Translating the Diabetes Prevention Program: A comprehensive model for prevention training and program delivery. *American Journal of Preventive Medicine* 37(6), 505-511.
- Kreek, M. J., LaForge, K. S., & Butelman, E. (2002). Pharmacotherapy of addictions. *Nature Reviews Drug Discovery*, 1, 710-726.
- Kuppens, P., Sheeber, L. B., Yap, M. B., Whittle, S., Simmons, J. G., & Allen, N. B. (2012). Emotional Inertia prospectively predicts the onset of Depressive Disorder in adolescence. *Emotion* 12(2), 283–289.

- Larimer, M. E., Palmer, R. S., & Marlatt, G. A. (1999). An overview of Marlatt's Cognitive-Behavioral Model. *Relapse Prevention* 23(2), 151-160.
- Leshner, A. I. (1997). Addiction is a brain disease, and it matters. *Science*, 278(5335), 45-47.
- Litteton, J., & Zieglansberger, W. (2003). Pharmacological mechanisms of Naltrexone and Acamprosate in the prevention of relapse in alcohol dependence. *The American Journal on Addictions*, 12, 53-61.
- Lookatch, S. J., Dunne, E. M., & Katz, E. C. (2012). Predictors of nonmedical use of prescription stimulants. *Journal of Psychoactive Drugs*, 44(1), 86-91.
- Lopes, P. N., Nezlek, J. B., Extremera, N., Hertel, J., Fernandez-Berrocal, P., Schutz, A., & Salovey, P. (2011). Emotion Regulation and the quality of social interaction: Does the ability to evaluate emotional situations and identify effective responses matter? *Journal of Personality* 79(2), 429-467.
- Lotze, G. M., Ravindran, N., & Myers, B. J. (2010). Moral emotions, emotion self-regulation, callous-unemotional traits, and problem behavior in children of incarcerated mothers. *J Child Fam Stud* 19, 702-713.
- Lovejoy, M., Rosenblum, A., Magura, S., Foote, J., Handelsman, L., & Stimmel, B. (1995). Patients' perspective on the process of change in substance abuse treatment. *Journal of Substance Abuse Treatment*, 12(4), 269-282.
- Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760-768.
- Maddux, J. F., & Desmond, D. P. (2000). Addiction or dependence. *Addiction*, 95(5), 661-665.
- Maisto, S. A., Pollock, N. K., Cornelius, J. R., Lynch, K. G., & Martin, C. S. (2003). Alcohol relapse as a function of relapse definition in a clinical sample of adolescents. *Addictive Behaviors* 28, 449-459.
- Mann, K., & Hermann, D. (2010). Individualised treatment in alcohol-dependent patients. *Eur Arch Psychiatry Clin Neurosci* 260 (Suppl 2), 116-120.
- Marks, S. R., & MacDermid, S. M. (1996). Multiple roles and the self: A theory of role balance. *Journal of Marriage and Family*, 58(2), 417-432.
- Marlatt, G. A. (1992). Substance abuse: implications of a biopsychosocial model of prevention, treatment, and relapse prevention. In J. Grabowski, & G. R.

- VandenBos, *Psychopharmacology: Basic mechanisms and applied interventions* (pp. 131-162). Washington DC: American Psychological Association.
- Marlatt, G. A. (1996). Harm reduction: Come as you are. *Addictive Behaviors*, *21*(6), 779-788.
- Marlatt, G. A., & George, W. H. (1984). Relapse prevention: Introduction and overview of the model. *British Journal of Addiction*, *79*, 261-273.
- Marlatt, G. A., & Gordon, J. R. (1985). *Relapse prevention: Maintenance strategies in addictive behavior change*. New York: Guilford.
- Martin, R. C., & Dahlen, E. R. (2005). Cognitive emotion regulation in the prediction of depression, anxiety, stress, and anger. *Personality and Individual Differences* *39*, 1249–1260.
- Martini, N. F. (2012). “La Iglesia” in politics? Religion and Latino public opinion. *Social Science Quarterly*, *93*(4), 988-1006.
- Martini, T. S., & Busseri, M. A. (2012). Emotion regulation and relationship quality in mother–young adult child dyads. *Journal of Social and Personal Relationships* *29*(2), 185–205.
- Maslow, A. (1954). *Motivation and Personality*. New York: Haper & Brothers.
- Matto, H. C., Strolin, J. S., & Mogro-Wilson, C. (2008). A Pilot Study of a Dual Processing Substance User Treatment Intervention with Adults. *Substance Use & Misuse*, *43*, 285–294.
- Matuska, K. M. (2010). Workaholism, Life Balance, and Well-being: A comparative analysis. *Journal of Occupational Science Vol 12*(2), 104-111.
- Matuska, K. M. (2010). Validity evidence for a model and measure of Life Balance. *Unpublished doctoral dissertation*, University of Minnesota, Minnesota, United States.
- Matuska, K. M., & Christiansen, C. H. (2008). A proposed model of Lifestyle Balance. *Journal of Occupational Science* *15*(1), 9-19.
- Matuska, K. M., & Erickson, B. (2008). Lifestyle Balance: How it is described and experienced by women with multiple sclerosis. *Journal of Occupational Science* *15*(1), 20-26.
- Mauss, I. B., Cook, C. L., & Gross, J. (2007). Automatic emotion regulation during anger provocation. *Journal of Experimental Social Psychology* *43*, 698–711.

- McCaul, M. E., Svikis, D. S., & Moore, R. D. (2001). Predictors of outpatient treatment retention: patient versus substance use characteristics. *Drug and Alcohol Dependence*, 62, 9-17.
- McKay, J. R., & Hiller-Sturmhöfel, S. (2011). Treating Alcoholism as a chronic disease. *Alcohol Research & Health* 33(4), 356-370.
- McLellan, T., Kushner, H., Metzger, D., Peters, R., Smith, I., Grissom, G., . . . Argeriou, M. (1992). The fifth edition of the Addiction Severity Index. *Journal of Substance Abuse Treatment*, 9, 199-213.
- McLellan, T., Lewis, D. C., O'Brien, C. P., & Kleber, H. D. (2000). Drug Dependence, a chronic medical illness: Implications for treatment, insurance, and outcomes evaluation. *The Journal of American Medical Association*, 284(13), 1689-1695.
- McMahon, R. C. (2001). Personality, stress, and social support in cocaine relapse prediction. *Journal of Substance Abuse Treatment*, 21, 77-87.
- Meyer, A. (1922). The philosophy of Occupational Therapy. *Archives of Occupational Therapy*, 1(1), 1-10.
- Miller, W. R., Westerberg, V. S., Harris, R. J., & Tonigan, S. J. (1996). What predicts relapse? Prospective testing of antecedent models. *Addiction Section HB. Extensions of Relapse Predictors 91 (Supplement)*, S155-S171.
- Ministerial Committee on Drug Policy. (2007). *National Drug Policy 2007-2012*. Retrieved February, 2013, from <http://www.ndp.govt.nz>
- Ministry of Health. (2001). *National alcohol and drug services funding strategy - Background paper*. Wellington: Ministry of Health.
- Ministry of Health. (2001). *New Zealand Drug Statistics*. Wellington: Ministry of Health.
- Ministry of Health. (2008). *A Portrait of Health – Key results of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health. Retrieved March 2013, from Health.govt.nz: <http://www.health.govt.nz>
- Ministry of Health. (2009). *Alcohol Use in New Zealand – Key results of the 2007/08 New Zealand Alcohol and Drug Use Survey*. Wellington: Ministry of Health. Retrieved February 2013, from Health.govt.nz: <http://www.health.govt.nz>
- Molarius, A., Berglund, K., Eriksson, C., Lambe, M., Nordstrom, E., Eriksson, H. G., & Feldman, I. (2006). Socioeconomic conditions, lifestyle factors, and self-rated health among men and women in Sweden. *European Journal of Public Health* 17(2), 125–133.

- Monahan, B. (2010). Non-adherence to group therapy in a community drug and alcohol outpatient unit: a thematic analysis. *Unpublished Master's dissertation*. Massey University, Auckland, New Zealand.
- Monti, P. M., Rohsenow, D. J., Michalec, E., Martin, R. A., & Abrams, D. B. (1997). Brief coping skills treatment for cocaine abuse: Substance use outcomes at three months. *Addiction*, *92*(12), 1717-1728.
- Morgenstern, J., Labouvie, E., McCrady, B. S., Kahler, C. W., & Frey, R. M. (1997). Affiliation with Alcoholics Anonymous after treatment: A study of its therapeutic effects and mechanisms of action. *Journal of Consulting and Clinical Psychology*, *65*(5), 768-777.
- Mulvaney, F. D., Alterman, A. I., Boardman, C. R., & Kampman, K. (1999). Cocaine abstinence symptomatology and treatment attrition. *Journal of Substance Abuse Treatment*, *16*(2), 129-135.
- Mutschler, J., Grosshans, M., Koopmann, A., Hermann, D., Diehl, A., Mann, K., & Kiefer, F. (2010). Supervised Disulfiram in relapse prevention in alcohol-dependent patients suffering from comorbid borderline personality disorder - A case series. *Alcohol & Alcoholism*, *45*(2), 146-150.
- Neff, J. A., & MacMaster, S. A. (2005). Applying behaviour change models to understand spiritual mechanisms underlying change in substance abuse treatment. *The American Journal of Drug and Alcohol Abuse*, *31*, 669-684.
- New Zealand Drug Foundation. (2010). *At the heart of the matter: NZ Drug Foundation*. Retrieved March 2013, from [drugfoundation.org.nz](http://www.drugfoundation.org.nz): <http://www.drugfoundation.org.nz>
- New Zealand Police. (2010). National Alcohol Assessment. Wellington: *New Zealand Police*. Retrieved March 2013, from [police.govt.nz](https://www.police.govt.nz): <https://www.police.govt.nz>
- Newman, D. A., & Joseph, D. L. (2010). Emotional Intelligence and Job Performance: The Importance of Emotion Regulation and Emotional Labor Context. *Industrial and Organizational Psychology* *3*, 159–164.
- Niemiec, C. P., Ryan, R. M., Deci, E. L., & Williams, G. C. (2009). Aspiring to physical health: The role of aspirations for physical health in facilitating long-term tobacco abstinence. *Patient Education and Counseling* *74*, 250–257.
- Oates, W. E. (1968). On being a "Workaholic" (A serious jest). *Pastoral Psychology*, 16-20.

- Oates, W. E. (1971). *Confessions of a workaholic: The facts about work addiction*. New York: World Pub. Co.
- O'Farrell, T. J., Hooley, J., Fals-Stewart, W., & Cutter, H. S. (1998). Expressed emotion and relapse in alcoholic patients. *Journal of Consulting and Clinical Psychology, 66*(5), 744-752.
- Oxford University Dictionaries. (2013). *Oxford Dictionaries*. Retrieved March 2013, from oxforddictionaries.com: <http://oxforddictionaries.com>
- Paolini, M., & De Biasi, M. (2011). Mechanistic insights into nicotine withdrawal. *Biochemical Pharmacology 82*, 996–1007.
- Pentland, W., & McColl, M. A. (2008). Occupational integrity: Another perspective on “Life Balance”. *Canadian Journal of Occupational Therapy, 75*(3), 135-138.
- Peyre, H., Leplege, A., & Coste, J. (2011). Missing data methods for dealing with missing items in quality of life questionnaires. A comparison by simulation of personal mean score, full information maximum likelihood, multiple imputation, and hot deck techniques applied to the SF-36 in the French. *Quality of Life Research, 20*, 287-300.
- Pond, Jr., R. S., Kashdan, T. B., DeWall, C. N., Savostyanova, A., Lambert, N. M., & Fincham, F. D. (2012). Emotion differentiation moderates aggressive tendencies in angry people: A daily diary analysis. *Emotion 12*(2), 326–337.
- Potenza, M. N., Sofuoglu, M., Carroll, K. M., & Rounsaville, B. J. (2011). Neuroscience of behavioural and pharmacological treatments for addictions. *Neuron, 69*, 695-712.
- Prochaska, J. O., & DiClemente, C. C. (1983). Stages and Processes of Self-Change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology 51*(3), 390-395.
- Proctor, W. M. (1929). *Vocations: The world's work and its wonders*. Boston: Houghton Mifflin Company.
- Ramo, D. E., Prince, M. A., Roesch, S. C., & Brown, S. A. (2012). Variation in substance use relapse episodes among adolescents. *Journal of Substance Abuse Treatment 43*, 44–52.
- Rattiner, S. L. (2002). *Food and drink: A book of quotations*. New York: Dover Publications.

- Rawson, R. A., Obert, J. L., McCann, M. J., & Marinelli-Casey, P. (1993). Relapse prevention strategies in outpatient substance abuse treatment. *Psychology of Addictive Behaviors*, 7(2), 85-95.
- Rodd, Z. A., Bell, R. L., Sable, H. J., Murphy, J. M., & McBride, W. J. (2004). Recent advances in animal models of alcohol craving and relapse. *Pharmacology, Biochemistry and Behavior* 79, 439–450.
- Rollins, A. L., O'Neill, S. J., Davis, K. E., & Devitt, T. S. (2005). Substance Abuse relapse and factors associated with relapse in an inner-city sample of patients with dual diagnosis. *Psychiatric Services*, 56(10), 1274-1281.
- Rout, P. (2008). *Background resource paper on the benefits of treatment in reducing the harms associated with substance use and gambling disorders*. Christchurch: Alcohol Drug Association New Zealand.
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4(4), 99-104.
- Saletu-Zyhlar, G. M., Arnold, O., Anderer, P., Oberndorfer, S., Walter, H., Lesch, O. M., . . . Saletu, B. (2004). Differences in brain function in relapsing and abstaining alcohol-dependent patients, evaluated by EEG mapping. *Alcohol & Alcoholism* 39(3), 233-240.
- Sapolsky, R. M. (2004). Organismal stress and telomeric aging: An unexpected connection. *PNAS*, 101(50), 17323-17324.
- Scheffer, J. (2002). Dealing with missing data. *Research Letters in the Information and Mathematical Sciences*, 3, 153-160.
- Schmitz, J. M., Stotts, A. L., Sayre, S. L., DeLaune, K. A., & Grabowski, J. (2004). Treatment of cocaine - alcohol dependence with Naltrexone and relapse prevention therapy. *The American Journal on Addictions*, 13, 333-341.
- Scholz, M., & Kaltenbach, M. (1995). Cigarette, alcohol and drug use in 12 to 13-year-old adolescents: An anonymous survey of 2,979 students. *Gesundheitswesen*, 57(6), 339-344.
- Scully, D., Kremer, J., Meade, M. M., Graham, R., & Dudgeon, K. (1998). Physical exercise and psychological well being: a critical review. *Br J Sports Med*, 32, 111-120.
- Seeman, P., & Talerico, T. (1999). Rapid release of antipsychotic drugs from Dopamine D2 receptors: An explanation for low receptor occupancy and early

- clinical relapse upon withdrawal of Clozapine or Quetiapine. *The American Journal of Psychiatry*, 156(6), 876-884.
- Shaham, Y., Erb, S., & Stewart, J. (2000). Stress-induced relapse to heroin and cocaine seeking in rats: a review. *Brain Research Reviews*, 33, 13-33.
- Sheldon, K. M., & Niemiec. (2006). It's not just the amount that counts: Balanced need satisfaction also affects well-being. *Journal of Personality and Social Psychology*, 91(2), 331-341.
- Sheldon, K. M., Cummins, R., & Kamble, S. (2010). Life Balance and Well-Being: Testing a Novel Conceptual and Measurement Approach. *Journal of Personality* 78(4), 1093-1134.
- Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The Independent Effects of Goal Contents and Motives on Well-Being: It's Both What You Pursue and Why You Pursue It. *Personality and Social Psychology Bulletin*, 474-486.
- Shrive, F. M., Stuart, H., Quan, H., & Ghali, W. A. (2006). Dealing with missing data in a multi-question depression scale: A comparison of the imputation methods. *BMC Medical Research Methodology*, 6(57), 1-10.
- Silvers, J. A., McRae, K., Gabrieli, J. D., & Gross, J. J. (2012). Age-related differences in emotion reactivity, regulation, and rejection sensitivity in adolescence. *Emotion*, 12(6), 1235-1247.
- Singer, E., Von Thurn, D. R., & Miller, E. R. (1995). Confidentiality assurances and response. A quantitative review of the experimental literature. *Public Opinion Quarterly*, 59, 66-77.
- Slack, A., Nana, G., Webster, M., Stokes, F., & Wu, J. (2009). *Costs of harmful alcohol and other drug use*. Wellington: BERL.
- Smith, C., & Nutbeam, D. (1990). Assessing non-response bias: a case study from the 1985 Welsh Heart Health Survey. *Health Education Research*, 5(3), 381-386.
- Spence, J. T., & Robbins, A. S. (1992). Workaholism: Definition, Measurement, and preliminary results. *Journal of Personality Assessment*, 58(1), 160-178.
- Stalcup, S. A., Christian, D., Stalcup, J., Brown, M., & Galloway, G. P. (2006). A Treatment Model for Craving Identification and Management. *Journal of Psychoactive Drugs Volume* 38 (2), 189-202.
- Stampfer, M. J., Hu, F. B., Manson, J. E., Rimm, E. B., & Willett, W. C. (2000). Primary Prevention of Coronary heart disease in women through diet and lifestyle. *The New England Journal of Medicine* 343(1), 16-22.

- Stewart, J. (2000). Pathways to relapse: The neurobiology of drug- and stress-induced relapse to drug-taking. *Journal of Psychiatry & Neuroscience*, 25(2), 125-136.
- Stewart, S. H., Zack, M., Collins, P., Klein, R. M., & Fragopoulos, F. (2008). Subtyping pathological gamblers on the basis of affective motivations for gambling: Relations to gambling problems, drinking problems, and affective motivations for drinking. *Psychology of Addictive Behaviors* 22(2), 257-268.
- Straussner, S. L. (2004). *Clinical work with substance abusing clients. Second Edition.* New York: The Guildford Press.
- Strowig, A. B. (2000). Relapse determinants reported by men treated for alcohol addiction The prominence of depressed mood. *Journal of Substance Abuse Treatment* 19, 469-474.
- Suveg, C., Morelen, D., Brewer, G. A., & Thomassin, K. (2010). The Emotion Dysregulation Model of Anxiety: A preliminary path analytic examination. *Journal of Anxiety Disorders* 24, 924-930.
- Szasz, P. L., Szentagotai, A., & Hofmann, S. G. (2011). The effect of emotion regulation strategies on anger. *Behaviour Research and Therapy* 49, 114-119.
- Tausig, M., & Fenwick, R. (2001). Unbinding time: Alternative work schedules and work-life balance. *Journal of Family and Economic Issues*, 22(2), 101-119.
- Thakker, J., & Ward, T. (2010). Relapse prevention: A critique and proposed reconceptualisation. *Behaviour Change*, 27(3), 154-175.
- Thompson, M. G., & Heller, K. (1990). Facets of support related to well-being: Quantitative social isolation and perceived family support in a sample of elderly women. *Psychology and Aging*, 5(4), 535-544.
- Tice, D. M., & Bratslavsky, E. (2000). Giving in to Feel Good: The Place of Emotion Regulation in the context of General Self-Control. *Psychological Inquiry* 11(3), 149–159.
- Tull, M. T., Stipelman, B. A., Salters-Pedneault, K., & Gratz, K. L. (2009). An examination of recent non-clinical panic attacks, panic disorder, anxiety sensitivity, and emotion regulation difficulties in the prediction of generalized anxiety disorder in an analogue sample. *Journal of Anxiety Disorders* 23, 275-282.
- Ungless, M. A., Argilli, E., & Bonci, A. (2010). Effects of stress and aversion on dopamine neurons: Implications for addiction. *Neuroscience and Biobehavioral Reviews* 35, 151–156.

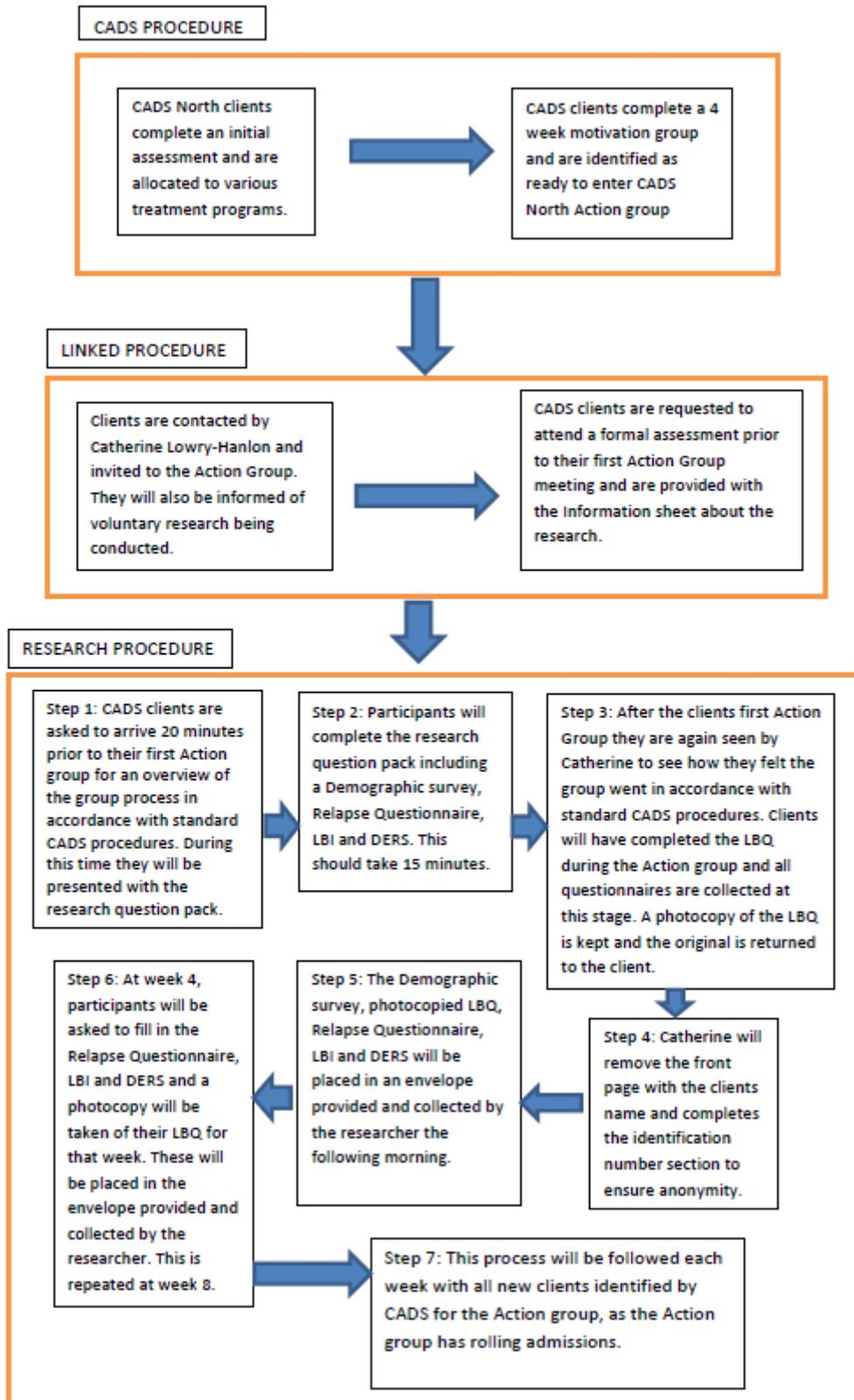
- Van Horn, P. S., Green, K. E., & Martinussen, M. (2008). Survey response rates and survey administration in Counselling and Clinical psychology: A meta-analysis. *Educational and Psychological Measurement, 69*(3), 389-403.
- VanGeest, J. B., Johnson, T. P., & Welch, V. L. (2007). Methodologies for improving response rates in surveys of physicians: A systematic review. *Evaluation and the Health Professions, 30*(4), 303-321.
- VanGeest, J., & Johnson, T. P. (2011). Surveying nurses: Identifying strategies to improve participation. *Evaluation and the Health Professions, 34*(4), 487-511.
- Veenhoven, R. (2009). How do we assess how happy we are? Tenets, implications and tenability of three theories. In A. K. Dutt, & B. Radcliff, *Happiness, Economics and Politics* (pp. 45-46). Massachusetts: Edward Elgar Publishing.
- Walitzer, K. S., & Dearing, R. L. (2006). Gender differences in alcohol and substance use relapse. *Clinical Psychology Review, 26*, 128-148.
- Walton, A., & Flouri, E. (2010). Contextual risk, maternal parenting and adolescent externalizing behaviour problems: the role of emotion regulation. *Child: care, health and development 36*(2), 275–284.
- Walton, M. A., Blow, F. C., Bingham, C. R., & Chermack, S. T. (2003). Individual and social/environmental predictors of alcohol and drug use 2 years following substance abuse treatment. *Addictive Behaviours, 28*, 627-642.
- Weiss, N. H., Tull, M. T., Viana, A. G., Anestis, M. D., & Gratz, K. L. (2012). Impulsive behaviors as an emotion regulation strategy: Examining associations between PTSD, emotion dysregulation, and impulsive behaviors among substance dependent inpatients. *Journal of Anxiety Disorders 26*, 453– 458.
- Wild, T. C., Cunningham, J. A., & Roberts, A. B. (2006). Controlled study of brief personalised assessment-feedback for drinkers interested in self-help. *Addiction, 102*, 241-250.
- Williams, G. C., Gagne, M., Ryan, R. M., & Deci, E. L. (2002). Facilitating Autonomous Motivation for Smoking Cessation. *Health Psychology 21*(1), 40-50.
- Williams, G. C., McGregor, H., Sharp, D., Kouldes, R. W., Levesque, C. S., Ryan, R. M., & Deci, E. L. (2006). A Self-Determination Multiple Risk Intervention Trial to Improve Smokers' Health. *A Self-Determination Multiple Risk Intervention Trial, 1288-1294*.

- Williams, G. C., Rodin, G. C., Ryan, R. M., Grolnick, W. S., & Deci, E. L. (1998). Autonomous regulation and long-term medication adherence in adult outpatients. *Health Psychology* 17(3), 269-276.
- Wilson, B. J., Fernandes-Richards, S., Aarskog, C., Osborn, T., & Capetillo, D. (2007). The role of Emotion Regulation in the social problems of boys with developmental delays. *Early Education and Development* 18(2), 201–222.
- Winefield, A. H., & Tiggeman, M. (1990). Employment status and psychological well-being: A longitudinal study. *Journal of Applied Psychology*, 75(4), 455-459.
- Winkler, A., Dörsing, B., Rief, W., Shen, Y., & Glombiewski, J. A. (2013). Treatment of internet addiction: A meta-analysis. *Clinical Psychology Review*, 33, 317-329.
- Witkiewitz, K., & Marlatt, G. A. (2004). Relapse prevention for alcohol and drug problems. *American Psychologist* 59(4), 224–235.
- Witkiewitz, K., & Marlatt, G. A. (2007). Modeling the complexity of post-treatment drinking: It's a rocky road to relapse. *Clinical Psychology Review* 27, 724–738.
- World Health Organization (WHO). (2013). *World Health Organization*. Retrieved March 2013, from who.int: <http://www.who.int/en>
- Youngstedt, S. D., O'Connor, P. J., & Dishman, R. K. (1997). The effects of acute exercise on sleep: A quantitative synthesis. *Sleep: Journal of Sleep Research & Sleep Medicine*, 20(3), 203-214.
- Statistics New Zealand. (2006). *Statistics new Zealand Tatauranga Aotearoa*. Retrieved March 2013, from stats.govt.nz: <http://www.stats.govt.nz>
- Zywiak, W. H., Stout, R. L., Trefry, W. B., Glasser, I., Connors, G. J., Maisto, S. A., & Westerberg, V. S. (2006). Alcohol relapse repetition, gender, and predictive validity. *Journal of Substance Abuse Treatment*, 30(4), 349-353.

## APPENDIX A

Flow Chart of relevant facets of the Procedure

**FLOW CHART**



## APPENDIX B

Information sheet provided to the potential participants who have met the criteria.







## APPENDIX C

### Demographic Questionnaire.

## Demographic Information

1. Age?
  - 25 or under
  - 26 – 40
  - 41 – 55
  - 56 or older
2. Gender you most identify with?
  - Male
  - Female
3. Current relationship status?
  - Married
  - De Facto
  - Single
4. Current employment status?
  - Working fulltime
  - Working part-time
  - Not working
5. Ethnicity you most relate to?
  - New Zealand European
  - Maori
  - Asian
  - South African
  - Other

## APPENDIX D

Lifestyle Balance Questionnaire (LBQ).

## Lifestyle Balance Questionnaire

Please tick the number that best matches your experience over the past week. Each question is rated as N/A (not applicable) if this has not been something that applies to you, then from 1 (just the right amount) up to 5 (too much).

### HUNGRY

1. I have felt hungry for spiritual fulfillment over the past week?

| N/A | Almo<br>st<br>neve<br>r | Some<br>-<br>times | Abou<br>t half<br>the<br>time | Most<br>of<br>the<br>time | Almo<br>st<br>Alwa<br>ys |
|-----|-------------------------|--------------------|-------------------------------|---------------------------|--------------------------|
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |
| 0   | 1                       | 2                  | 3                             | 4                         | 5                        |

2. I have felt hungry for food over the past week?

3. I have felt hungry for emotional fulfillment over the past week?

4. I have felt hungry for physical touch over the past week?

5. I have felt hungry for intellectual stimulation over the past week?

6. I have felt hungry for purpose over the past week?

### ANGRY

7. I have felt too angry over the past week?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

### LONELY

8. I have felt lonely over the past week?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

### TIRED

9. I have felt tired over the past week because I'm pushing myself too hard?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

10. I have felt tired over the past week because I am overdoing things?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

11. I have felt tired over the past week because I'm not sleeping properly?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

12. I have felt tired over the past week because I am not exercising enough?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

**SAD**

13. I have felt sad over the past week because I have ignored my need for fun?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

**SICK**

14. I have felt sick over the past week because I did not take care of myself?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

**STRESSED**

15. I have felt stressed over the past week?

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

## APPENDIX E

The Life Balance Questionnaire (LBI) (Matuska, 2010).

## Life Balance Inventory

To rate the following items, STEP 1 indicate if you do the activity or want to do the activity by circling YES or NO. Then STEP 2, for the activities you circled YES, think about yourself doing the activities in the past week and rate how much time you actually spend in each activity compared to the amount of time you want to spend in each activity.

### STEP 1

I do this activity or I want to do this activity.

### STEP 2

For the activities you circled YES, the amount I spend doing the activity is:

|     |    |  | ALWAYS LESS than I want | SOME-TIMES LESS than I want | ABOUT RIGHT for me | SOME-TIMES MORE than I want | ALWAYS MORE than I want |
|-----|----|--|-------------------------|-----------------------------|--------------------|-----------------------------|-------------------------|
| Yes | No | 1 Taking care of your personal hygiene and bathing | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 2 Taking care of your appearance                   | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 3 Getting adequate sleep                           | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 4 Relaxing   | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 5 Getting regular exercise                         | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 6 Eating nutritiously                              | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 7 Managing your health needs                       | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 8 Managing money (bills/budget/investments)        | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 9 Driving  | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 10 Taking the bus                                  | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 11 Doing things with family members                | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 12 Doing things with spouse/significant other      | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 13 Doing things with friends                       | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 14 Taking care of children or family members       | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 15 Having an intimate sexual relationship          | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 16 Participating in groups (clubs, classes, etc)   | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 17 Meeting new people                              | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 18 Working for pay                                 | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 19 Gaining competence in your job                  | 1                       | 2                           | 3                  | 2                           | 1                       |
| Yes | No | 20 Socializing at work                             | 1                       | 2                           | 3                  | 2                           | 1                       |



|     |    |    |   |   |   |   |   |   |
|-----|----|----|---|---|---|---|---|---|
| Yes | No | 44 | Using computers (text, internet, blogs)         | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 45 | Reflecting or meditating                        | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 46 | Journaling                                      | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 47 | Composing, writing (music, poetry, etc)         | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 48 | Dancing, yoga, etc                              | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 49 | Playing games of skill (cards, electronic, etc) | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 50 | Watching TV                                     | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 51 | Mentoring (teaching) others                     | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 52 | Travelling (any means, locally, globally)       | 1 | 2 | 3 | 2 | 1 |
| Yes | No | 53 | Storytelling                                    | 1 | 2 | 3 | 2 | 1 |

## APPENDIX F

The Difficulties in Emotion Regulation Scale (DERS) (Gratz & Roemer, 2004)

## Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following 36 statements apply to you over the past week by ticking the appropriate number on the scale (1 - 5) alongside each item.

Response categories:

|   | Almos<br>t never<br>(0-<br>10%) | Sometimes<br>(11-35%) | About<br>half the<br>time<br>(36-65%) | Most of<br>the time<br>(66 –<br>90%) | Almost<br>always<br>(91-<br>100%) |
|---|---------------------------------|-----------------------|---------------------------------------|--------------------------------------|-----------------------------------|
| 1 I am clear about my feelings  | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 2 I pay attention to how I feel   | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 3 I experience my emotions as<br>overwhelming and out of control            | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 4 I have no idea how I am feeling   | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 5 I have difficulty making sense out of my<br>feelings                      | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 6 I am attentive to my feelings   | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 7 I know exactly how I am feeling   | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 8 I care about what I am feeling  | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 9 I am confused about how I feel  | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 10 When I'm upset, I acknowledge my<br>emotions                             | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 11 When I'm upset, I become angry with<br>myself for feeling that way       | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 12 When I'm upset, I become embarrassed<br>for feeling that way             | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 13 When I'm upset, I have difficulty getting<br>work done                   | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 14 When I'm upset, I become out of control                                  | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 15 When I'm upset, I believe that I will remain<br>that way for a long time | 1                               | 2                     | 3                                     | 4                                    | 5                                 |
| 16  | 1                               | 2                     | 3                                     | 4                                    | 5                                 |

|   |  |   |   |   |   |   |
|---|--|---|---|---|---|---|
| 6 | When I'm upset, I believe that I'll end up feeling very depressed  |   |   |   |   |   |
| 1 | When I'm upset, I believe that my feelings are valid and important | 1 | 2 | 3 | 4 | 5 |
| 1 | When I'm upset, I have difficulty focusing on other things         | 1 | 2 | 3 | 4 | 5 |
| 1 | When I'm upset, I feel out of control                              | 1 | 2 | 3 | 4 | 5 |
| 0 | When I'm upset, I can still get things done                        | 1 | 2 | 3 | 4 | 5 |

**Response categories:**

|        | Almos<br>t never<br>(0-<br>10%)  | Sometimes<br>(11-35%) | About<br>half the<br>time (36-<br>65%) | Most of<br>the time<br>(66 –<br>90%) | Almos<br>t<br>always<br>(91-<br>100%) |   |
|--------|--|-----------------------|--|--------------------------------------|---------------------------------------|---|
| 2<br>1 | When I'm upset, I feel ashamed with myself for feeling that way                | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>2 | When I'm upset, I know that I can find a way to eventually feel better         | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>3 | When I'm upset, I feel like I am weak  | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>4 | When I'm upset, I feel like I can remain in control of my behaviours           | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>5 | When I'm upset, I feel guilty for feeling that way                             | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>6 | When I'm upset, I have difficulty concentrating                                | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>7 | When I'm upset, I have difficulty controlling my behaviours                    | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>8 | When I'm upset, I believe there is nothing I can do to make myself feel better | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 2<br>9 | When I'm upset, I become irritated with myself for feeling that way            | 1                     | 2                                      | 3                                    | 4                                     | 5 |
| 3<br>0 | When I'm upset, I start to feel very bad about myself                          | 1                     | 2                                      | 3                                    | 4                                     | 5 |

|        |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|
| 3<br>1 | When I'm upset, I believe that wallowing in it is all I can do    | 1 | 2 | 3 | 4 | 5 |
| 3<br>2 | When I'm upset, I lose control over my behaviours                 | 1 | 2 | 3 | 4 | 5 |
| 3<br>3 | When I'm upset, I have difficulty thinking about anything else    | 1 | 2 | 3 | 4 | 5 |
| 3<br>4 | When I'm upset, I take time to figure out what I'm really feeling | 1 | 2 | 3 | 4 | 5 |
| 3<br>5 | When I'm upset, it takes me a long time to feel better            | 1 | 2 | 3 | 4 | 5 |
| 3<br>6 | When I'm upset, my emotions feel overwhelming                     | 1 | 2 | 3 | 4 | 5 |

## APPENDIX G

The Relapse Questionnaire.

**RELAPSE**

1. Did you relapse in the past week?

| Yes | No |
|-----|----|
| 0   | 1  |

2. If you did relapse what did your relapse involve?

| Drugs | Alcohol | Both |
|-------|---------|------|
| 0     | 1       | 2    |

3. How much of the substance did I use/drink?

| Quantity (Number) |
|-------------------|
|                   |