

***STORIES OF SUCCESS AND SURVIVAL***

***THE ROLE OF PRIMARY AND SECONDARY CONTROL MECHANISMS IN  
THE SUBJECTIVE WELL-BEING OF PEOPLE ON METHADONE  
MAINTENANCE TREATMENT PROGRAMMES***

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We the undersigned declare that the above-named research project has been completed as described in the Application for Ethics Approval and in accordance with the ethical guidelines of Deakin University.

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### **Abstract**

This study investigated the relationship between primary and secondary control mechanisms and self-esteem, with subjective well-being (SWB) in a sample of individuals on Methadone Maintenance Treatment (MMT) programmes: a short-term (ST) group (less than 6 months) and a long-term (LT) group (6 months or more continuously) and compared their results with that of a Control group. Data were derived from a questionnaire consisting of the Comprehensive Quality of Life Scale-A5 (subjective), the Cognitive Behavioural Control Questionnaire Scale and Rosenberg's Self-Esteem Scale. These questionnaires were administered to the ST group ( $n=34$ ), the LT group ( $n=37$ ) and the Control group ( $n=96$ ). The MMT groups revealed significantly lower levels of SWB on all seven domains. Whilst there were no between-groups differences in the extent of primary control, the Control group used significantly more secondary control than the LT group and had higher self-esteem than both MMT groups. Multiple regression revealed that whilst self-esteem was a predictor of SWB for all groups, and primary control a predictor of SWB for Controls and ST groups, secondary control was a predictor of SWB for Controls only. These results were interpreted as support for the theory that primary and secondary control mechanisms are important predictors of SWB but that the context within which individuals find themselves is of utmost importance in determining the employment of these strategies.

## Introduction

Opiate addiction for both the addict and the community is a complex and problematic issue, which has generated controversy throughout the twentieth century. It is one of the chronic public health issues of our time. The construct of opiate addiction is grounded in the historical conflict between utilitarianism and individual liberty. What is deemed to be good for society does not always translate as that which individuals perceive to be good for themselves. The social construction of illness and aberrant behaviour within a society is inevitably engendered by, and reflected in, political and social mores (Figlio, 1978). For the addict, the illegality of opiates and the stigma associated with addiction are powerful external constraints upon perception and behaviour. Within this context, a central concept is that of control. Psychological well being is associated with feeling in control of one's internal responses and thoughts and their outward expression (Shapiro, Schwartz & Astin, 1996). Whilst much attention has been focused on external constraints to control the behaviour of the addict; scant attention has been paid to the individual addict's perception of control over their lives. Given that opiate addiction is a chronic medical condition, it is first necessary to review the nature and consequences of illegal opiate use.

### *1.1.1 Consequences of illegal opiate use*

The term "opiate" refers to substances derived from opium, such as morphine, codeine and heroin; and synthetics with chemical structures and actions similar to morphine, such as methadone (Wills, 1997). Illegal opiate use is associated with increased mortality and the transmission of blood-borne infectious disease amongst injecting drug users such as HIV/AIDS and hepatitis B and C (Hawks & Lenton, 1995; Lintzeris et al., 1996; Wodak, 1997); increased property crime and criminality (Rosenbaum et al., 1996; Seccombe, 1995; Major, 1995/6; Mattick & Hall, 1994); unemployment, family and social integration problems (Orford, 1994; Victorian Methadone Programme Statistical Review, 1993) and financial costs to the community estimated at \$2000 million per year in 1996-7 (Turning Point Drug and Alcohol Services, 1996-7 Annual Report). The illegality of opiate use has also defined addicts as criminals and members of an aberrant underclass (Krivanek, 1988). The

policy of harm minimisation and Methadone Maintenance Treatment (MMT) is a concerted effort to 'normalise' this population.

### ***1.1.2 Methadone Maintenance Treatment (MMT)***

Methadone (phseptone hydrochloride) is a synthetic narcotic analgesic which was developed in Germany in the 1940's (Smith, 1976; Westermeyer, 1998).

Methadone has a half-life of 18-48 hours, depending on the individual; unlike heroin which has a half-life of 6 hours (Woods, 1998). Maintenance doses of 80–120 mg. produce pharmacological cross-tolerance and therefore if the individual on MMT uses heroin, the euphoric effects are not experienced (Westermeyer, 1998). The death rates of those receiving MMT are approximately one-tenth of those addicted to opiates who are not receiving treatment (Westermeyer, 1998).

In 1964 MMT was introduced in the US as a controversial and revolutionary experiment in the treatment of opiate addiction (Rhodes & Grossman, 1997). MMT for opiate dependence commenced in Australia in 1969 in Sydney, and in Victoria in 1972 (Lintzeris et al., 1996). Treatment programmes range from clinic or hospital based programmes, to the community-based programmes developed in Victoria .

Entry into a MMT programme in Victoria requires assessment by a General Practitioner who is licensed to prescribe methadone (Victorian Methadone Guidelines for Providers, 1995). An individual participating in a MMT programme must present daily at a dispensing pharmacist or hospital and consume their medication in the presence of the pharmacist, state registered nurse or registered General Practitioner. Random urinalysis is a component of MMT programmes, and is used to detect the presence of additional or illegal substances (Victorian Methadone programme Guidelines for Providers). Take away doses are highly restricted primarily because of the fear of diversion to the 'black market'; and fear of overdose, especially in people using heroin concurrently.

### ***1.1.3 Harm Minimisation***

In 1985 there were only 161 people on MMT programmes in Victoria, all of whom attended specialist clinic programmes (Lintzeris et al., 1996). The emergence of HIV/AIDS in the mid-1980's was a major factor contributing to the policy of harm-

minimisation. This approach aims to lessen the adverse personal and societal consequences of the use of mood-altering drugs without focusing on a reduction in their consumption (Heather, 1995; Single, 1995). Emphasis is focussed on the need to acknowledge individual control mechanisms rather than following those approaches, which promoted punishment, and often compounded harm (Erickson, 1995; Krautschun, 1998).

This change in policy led to the rapid expansion of treatment programmes in Australia and Europe (Adelekan et al., 1996; Strang & Sheridan, 1997; Single, 1995; Lintzeris et al., 1996). In 1996-7 there were 5095 people registered on MMT programmes in Victoria (Turning Point Drug and Alcohol Services Annual Report, 1996-7) and approximately 15,000 people registered throughout Australia (Lintzeris et al., 1996).

#### ***1.1.4 MMT as a harm minimisation strategy***

Until recently there has been little Australian research concerning MMT, with its effectiveness evaluated largely through the results of US studies, which are based on clinic programmes (Hawks & Lenton, 1995), unlike the Victorian community-based programmes. US studies have found MMT to be the most effective method for the treatment of opiate addiction in the areas of drug use, crime reduction, HIV risk reduction and general health (Rosenbaum et al., 1996; Silver & Shaffer, 1996; Rhodes & Grossman, 1997) and employment (Zanis et al., 1994; Stark & Campbell, 1991).

Australian researchers acknowledge the paucity of controlled research regarding the effectiveness of MMT in Australia (Mattick & Hall, 1994) particularly in regard to community-based MMT programmes (Lintzeris et al., 1996). However, the first comprehensive evaluation of Victorian community MMT programmes conducted by Turning Point Drug and Alcohol Unit (1996) concluded that MMT was an effective and accessible treatment modality for dependent heroin users (Lintzeris et al., 1996). This study also found that there was little publicised research examining the perspectives held by individuals who participate in MMT programmes.

From the community's perspective, the MMT programme has been successful in minimising the deleterious consequences resulting from the use of illegal opiates. It is evident that MMT is keeping people alive (Westermeyer, 1998). However, from the perspective of the individual addict, there are a number of constraints involved with

the MMT programme. These constraints may impact upon their perception of life quality, including the extent to which these individuals feel that they have some control over their own destiny. In the continual balancing of utilitarian goals and the ideal of individual liberty, the cost of accepting all imposed restraints may be too great for some people.

### *1.1.5 Constraints of the MMT programme*

First, MMT has been demonstrated to be more effective when relatively higher doses (over 50 mg) are employed and when the goal of MMT is maintenance rather than abstinence (Hawks & Lenton, 1995). Whilst the annual retention rate on Victorian MMT programmes was found to be 65 percent, the vast majority of individuals surveyed by Lintzeris et al. (1996) identified complete abstinence as their goal. Although the Harm Minimisation policy eschews abstinence as a primary goal, various government reports (e.g. Victorian Methadone Statistical Review, 1993), medical publications (e.g. Richards & Geddis, 1995) and medical articles (e.g. Sacks & Keks, 1998) implicitly or explicitly advocate abstinence as preferable to MMT. Thus, the emphasis upon abstinence appears to remain; and creates a difficult hurdle for the addict seeking or undergoing treatment.

Second, MMT programmes are viewed by some theorists as a form of social control (Liversidge, 1996). External constraints include the restriction of personal liberty arising from the necessity of daily collection of medication, the consequent inability to travel freely and to accommodate the requirements of employers (Lintzeris, 1996; Richards, 1998). The stigmatisation reported by many individuals due to their participation in a MMT program is also a major problem for the addict (Lintzeris et al., 1996; Richards, 1998).

Third, two thirds of the cost of MMT is borne by the individual participating in the programme (Turning Point Drug and Alcohol Services Annual Report, 1996-7). The financial burden of meeting these costs often contributes to the 'drop-out' rate (Lintzeris et al., 1996; Rosenbaum et al., 1996; Turning Point Drug and Alcohol Services Annual Report, 1996-7).

On balance, the individual entering an MMT programme may look forward to a reduction in the following: the likelihood of contracting infectious disease, the likelihood of death and incarceration. There may also be an increase in the possibility

of employment and social reintegration. However, the limitations of MMT programmes involve a considerable degree of curtailment of individual liberty. For those individuals who, over the longer term, have stabilised their lives and improved their living conditions, the requirements of MMT may not be conducive to continuing personal growth (Rhodes & Grossman, 1997).

There is little evidence, particularly in Australia, of the systematic investigation of the subjective well-being and life satisfaction of people participating in MMT. Therefore, this study aims to explore the relationship between perceived control, self-esteem, and subjective well-being for this population.

### **1.2.1 QUALITY OF LIFE AND SUBJECTIVE WELL-BEING**

There is a vast amount of research in the general area of Quality of Life (QOL) investigating how and why people report the levels of life satisfaction that they do. Prior to the 1960's national and international measures of population well-being employed objective criteria for measurement and were normative to particular populations or sub-groups (Cummins, 1997). Measurement of objective criteria involves reference to observable criteria of success in a given society such as education, health care, income level and safety (Veenhoven, 1996).

Social Indicators Research of the 1960's led to the important conceptual advance of the distinction between subjective satisfaction and objective quality of life (Veenhoven, 1996). Subjective well-being (SWB) is a more complex concept than objective well-being as it involves the individual's personal perception of life satisfaction. There is now general consensus in the QOL literature that both objective and subjective aspects are fundamental to the concept of QOL (Cummins, 1997; O'Boyle, 1994) but for most groups they are uncorrelated (Cummins, 1995). Demographic variables rarely explain more than approximately 10 percent of the variation in people's satisfaction for 'life as a whole' (Andrews & Robinson, 1991).

In the 1970's the distinction between satisfaction with 'life as a whole' (e.g. Andrews & Withey, 1976) and satisfaction with various 'life domains' became of interest (Headey, 1981, 1988; Headey & Wearing, 1986; Veenhoven, 1996). Measurement of SWB as a single unitary entity tends to produce consistent data but only yields crude measures of satisfaction (Cummins, 1997). To obtain a meaningful

consideration of SWB, Campbell, Converse and Rodgen (1976) argued that consideration of a variety of specific domains was necessary.

In attempting to incorporate the plethora of views and information on QOL into a coherent and standardised approach, which delineated the relevant constituent domains, Cummins, McCabe, Gullone and Romeo (1994) reviewed over 500 publications involving QOL as a dependent variable. From this review, 64 variables were identified. These variables were verified initially through studies using University staff and students; with the sorting tasks used during scale construction indicating that seven domains comprehensively addressed the QOL construct (Cummins et al., 1994). These findings have been replicated consistently by further research (Cummins, 1997) The seven domains include Material Well-Being, Health, Productivity, Intimacy, Safety, Community and Emotional Well-Being and constitute the basis of the Comprehensive Quality of Life Scale (ComQol) which has both objective and subjective components (Cummins, 1994). Measurement incorporates satisfaction with each domain weighted by importance.

### ***1.2.2 QOL research findings***

One of the most consistent and interesting findings from QOL research has been that almost all sections of the community rate their SWB above the mid-point of scales, regardless of objective measures of life quality (Andrews & Robinson, 1991; Cummins, 1995, 1996, 1997, 1998; Headey & Wearing, 1986; Veenhoven, 1996). In a critical finding for QOL research, Cummins (1995) combined the data from 16 unrelated and methodologically different studies of life satisfaction in Western nations and found that the gold standard for life satisfaction might be considered as 75.0 percent of the measurement scale maximum score, with a standard deviation of 2.5 percent. This analysis was extended to include 44 Western and non-Western countries (Cummins, 1997). These countries tended to have a lower level of life satisfaction at an average of 70 percent of the measurement scale maximum score, with a standard deviation of 5 percent. However, the range of 60-80 percent scale maximum represents a remarkably low level of variation between populations (Cummins, 1997). In assessing whether these results might change over time, Cummins (1998) examined the data from 17 life satisfaction studies, matched by nation, conducted either between

1980-1981 and 1990-1994. It was found that the level of life satisfaction of these populations did not change over that decade.

However many individuals or sub-groups fall outside the normal range (Cummins, 1995). People over the age of 65, people with a physical disability or with a very low income are on the lower side of the normal range. People with a chronic medical condition have a mean value well below the two standard deviation range. African-Americans in the US have a lower satisfaction than whites. On the other hand, people with higher than average income, yield scores well above the two standard deviation range (Cummins, 1995).

The domains of life satisfaction are not perceived equally (Cummins, 1995). With the exception of people with a psychiatric impairment, the domain of intimacy receives a higher rating of satisfaction than all of the other domains, almost irrespective of the sample characteristics of the respondents.

### ***1.2.3 Why is subjective QOL data consistently negatively skewed?***

There have been many theories postulating why people perceive their lives in the positive manner in which they do. Links have been made between the personality traits of extraversion and neuroticism with reported levels of satisfaction (Costa & McCrae, 1980). Other research suggests that the maintenance of a positive sense of self is maintained through downward social comparisons to provide a sense of relative superiority (Headey & Wearing, 1988). It is possible that the positivity bias is a biological necessity in that it protects people from depression and facilitates beneficial social behaviours such as the formation of social alliances and the protection of resources (Cummins, 1998).

As most individuals consistently rate their levels of SWB above the mid-point of scales regardless of objective living conditions, it is theorised (Cummins, 1998) that a cognitive homeostatic mechanism operates to keep SWB at this level. The manner in which individuals adjust cognitively to external events has been linked in the literature with perceived control (Bandura, 1982; Folkman, 1984; Nistico & Cummins, 1997; Taylor, 1982). Perceived control has also been linked with self-esteem or self-efficacy as a predictor of satisfaction with life (Bandura, 1982; Nistico & Cummins, 1997).



Since the late 1950's and 1960's there has been interest in the link between perception of control held by an individual and their physical and psychological well-being (Shapiro, Schwartz & Astin, 1996). This is most relevant to this study of individuals participating in MMT; as they are subject to both external controls and internal demands associated with addiction. The manner in which these individuals reconcile these types of constraints would be expected to influence, and be influenced by, their personal perception of control. Thompson et al. (1996) theorised that the control mechanisms evidenced by their subjects who were imprisoned were influenced by the external control they experienced. Imprisonment represents a situation of low personal control and was found to affect the types of control mechanisms used.

### **1.3.1 PRIMARY AND SECONDARY CONTROL MECHANISMS**

Early findings in the area of control were shaped by the Western paradigm that the most useful form of perceived control was that which enabled the individual to feel power over their environment (Rotter & Mulry, 1965; Lefcourt, 1976). This "illusion" of control (Langer, 1975) has been linked in the literature with other self-confirmatory biases such as unrealistic optimism about future events (Weinstein, 1980), self-enhancing attributions (Bradley, 1978) and false consensus bias (McKnight & Sutton, 1994). A consistent finding in the literature is that depressed people do not demonstrate an illusion of control (Alloy & Abramson, 1982; Baumeister, 1989; Morgado et al., 1991). Rather, having an accurate picture of the world is linked with depression. Thus, research has demonstrated that the perception of control is an important component of a non-depressed individual's world-view.

In their study of the influence of age on types of control strategies used, Heckhausen, Schulz and Wrosch (1998) found that primary and secondary control had positive relations with psychological well-being, particularly in relationship to mastery and autonomy.

#### ***1.3.2 Primary control***

Primary control has been defined as the perception held by individuals that they can bring the environment into line with their wishes (Rothbaum, Weisz &

Snyder, 1982); or as behaviours directed at the external environment and involving attempts to change the world to fit the needs and desires of the individual (Heckhausen & Schulz, 1995). Historically, primary control has been heavily emphasised in Western culture (Weisz, Rothbaum & Blackburn, 1984).

Primary control is analogous to Lazarus' (1976) concept of direct action in response to stress, or the concept of problem-focused coping (Lazarus & Folkman, 1984; Folkman & Lazarus, 1985). Primary control has been seen as the first and most preferable line of defence in the face of stress (Heckhausen & Schulz, 1995) and has been linked with psychological well-being (Rothbaum, Weisz & Snyder, 1982; Bandura, 1982; Taylor, 1983). It has also been linked with positive psychological outcomes for people with physical illness. Of a sample of 92 patients with rheumatoid arthritis, perceiving greater personal control over one's illness was associated with positive mood and psychosocial adjustment (Affleck, Tennen, Pfeiffer & Fifield, 1987). Primary control amongst HIV-positive men in prison was found to have adaptive value (Thompson, Newcomb, Collins & Hunt, 1996).

### *1.3.3 Limitations of primary control*

However, findings of early researchers revealed certain incongruities and complexities regarding the concept of primary control. Whilst it was theorised that the less control people perceive themselves to have in a threatening situation, the more stressful it will be (Lazarus, 1976) early research demonstrated that the perception of primary control may induce stress in situations of greater uncontrollability. For example, in a study examining control over stress (Houston, 1972) subjects who were told that there was no way of avoiding electric shock whilst completing a verbal task demonstrated less physiological arousal than those who could avoid shock by not making mistakes. In a wide review of studies on control (Averill, 1973) it was found that the availability of a control response was stress-inducing for 10-20 percent of each sample. There is strong evidence that in situations that are largely uncontrollable, the perception of primary control may be counterproductive (Nowack, 1989; Carver & Scheier, 1994). It is theorised (e.g. Heckhausen & Schulz, 1995) that in these situations, secondary control may be more adaptive.

### *1.3.4 The concept of secondary control*

Secondary control is broadly defined as the attempt by the individual to accept, or bring themselves in line with, the environment (Rothbaum, Weisz & Snyder, 1982). Secondary control may act as a back-up mechanism to primary control by, first, contributing to the selection of action alternatives available to the individual; and, second, by minimising the effect of losses in primary control, as well as expanding the potential for utilising primary control in the future (Heckhausen & Schulz, 1995, 1998). The concept of secondary control appears to be linked to the utilisation of emotion-focused coping resources and options (Folkman, 1984).

Secondary control is more likely to occur after attempts at primary control have failed, although vacillation between the two is common (Rothbaum, Weisz & Snyder, 1982). With reference to cultural bias (Blackburn, Weisz & Rothbaum, 1984; Azuma, 1984; Kojima, 1984) the temporal sequence of both control mechanisms may vary according to different social and historical contexts. For example, many non-Western cultures do not accord complete primacy to primary control. Recent research argues that optimal life satisfaction is attained through a judicious blend of both primary and secondary control (Weisz, Rothbaum & Blackburn, 1984; Heckhausen, Schulz & Wrosch, 1998).

The concept of secondary control is as yet exploratory. However, a central theme underlying the definition of secondary control is the postulate that it operates when an individual acknowledges that the self is not the most powerful agent (Rothbaum, Weisz & Snyder, 1982). Few investigations have attempted to measure the specific cognitive and behavioural strategies that can be classed as secondary control (Heeps, 1998). Whilst there may be an infinite number of adaptive secondary control strategies or methods of adapting to a particular event (e.g. Carver, Scheier & Weintraub, 1989; Heeps, 1998) secondary control strategies have been defined by Rothbaum, Weisz and Snyder (1982) as comprising predictive control, illusory control, vicarious control and interpretive control.

Predictive control is defined by Rothbaum, Weisz and Snyder (1982) as a secondary control mechanism which aims at preventing or lessening disappointment and is evidenced by such strategies as self-handicapping, predicting future failure rather than success and passive or withdrawn behaviours. Illusory control involves attributions to chance rather than skill. Those adopting this particular strategy are

likely to perceive primary control as unobtainable and thus prefer to align themselves with the powerful force of chance (Rothbaum, Weisz & Snyder, 1982). Aligning oneself with powerful others is an instance of vicarious control. Rothbaum, Weisz and Snyder (1982) liken this process to that of decreased individuation and label it "... a secondary form of freedom" (Rothbaum, Weisz & Snyder, 1982, p.23). A primary form of freedom, according to this thesis, is represented by primary control, in which individuals feel free to change their environment. Interpretive control refers to the individual's search for meaning and understanding in events which they do not perceive that they can change. This type of secondary control is theorised to underlie all other forms of secondary control (Rothbaum, Weisz & Snyder, 1982) which appear to centre upon the concept of acceptance rather than change. Other forms of secondary control which have not been researched include behavioural secondary control strategies designed to reduce the impact of a stressful event, such as exercise or meditation (Heeps, 1998).

### ***1.3.5 Which control mechanism is most effective?***

A variable found to be important in determining both variations in control mechanisms, and the effectiveness of these mechanisms, is the controllability of the event. Uncontrollable events such as age related disabilities (Heckhausen, Schulz & Wrosch, 1998), terminal illness (Carver & Scheier, 1989), coping with elderly people with dementia (McKee et al., 1997) and victims of violence (Antonovsky, 1974; Janoff-Bulman, 1988) were found to engender the utilisation of secondary control mechanisms. Whether these strategies consistently engender the maintenance or improvement of psychological well being remains unclear (Carver & Scheier, 1994; Folkman et al., 1986).

In their study of primary and secondary control mechanisms used by HIV-positive men, Thompson et al. (1994) found that primary and secondary control were associated with better adjustment, and that secondary control played a protective role at lower levels of primary control. However, secondary control was not associated with adjustment at higher levels of primary control. This indicates that primary control may be the preferred option for better psychological adjustment.

In a further study of primary and secondary control amongst HIV-positive men in prison (Thompson, Newcomb, Collins & Hunt, 1996) it was found that

primary control had primacy as it had greater adaptive value. However, secondary control did not function as reinforcement to primary control, and temporal differences were not found. Secondary control was associated with more distress for the low-primary control group. This may have been because the situation represented one of very low control (imprisonment) and, second,

“... male inmates in a state prison are likely to be different from the types of people who usually participate in coping studies in a variety of ways, including socioeconomic status, sociopathology, endorsement of traditional male ideology, and need for control.” (Thompson et al., 1996, p.1313)

The choice of control mechanisms and their effectiveness regarding the maintenance or improvement of psychological well being may rely not only on the objective uncontrollability of the event, but also the self-concept or self esteem of the individual. This construct involves the effect of past experience and future expectations. This study of individuals on MMT requires examination of the role of self-esteem in regard to their process of adjustment.

#### **1.4.1 SELF-ESTEEM**

Contemporary research views the concept of the self in dynamic terms, as a cognitive schema which contains traits, memories and values, and controls the processing of self-relevant information (Markus, 1977; Campbell et al, 1996). These cognitive generalisations are derived from past experience (Markus, 1977). Not only do these generalisations about the self reflect past experience, but they operate as cognitive biases which function to preserve the individual's self-concept (Greenwald, 1980) and maintain a stable and integrated cognitive system (Janoff-Bulman, 1988). Moreover, individuals have been demonstrated to develop mind-sets according to past experience and beliefs about themselves which persist over time (Gollwitzer & Kinney, 1989; Gollwitzer, Heckhausen and Steller, 1990).

Global self-concept, often referred to as self-esteem (Marsh, 1994) is generally inferred from responses to generalised characteristics such as self-confidence and self-competence. Links have been demonstrated between self-concept clarity and global self-esteem (Campbell et al, 1996). Those with high self-esteem characteristically have positive, well-articulated beliefs about the self, or self-concept clarity, whereas

those with low self-esteem typically demonstrate low self-concept clarity, or relatively high levels of uncertainty, instability and inconsistency.

The flexibility of self-concept, or the acknowledgment of other “possible selves” or roles (Markus & Nurius, 1986; Antonovsky, 1974) is juxtaposed against the idea of the unchanging self. The ability to change ones’ perception according to the requirements of different circumstances is closely linked with the concept of secondary control. High self-esteem, or a sense of personal efficacy (Bandura, 1982) has been linked with perception of control over outcomes (Bandura, 1982; Taylor, 1983; Waterman, 1981; Shapiro, Schwartz & Astin, 1996). The influence of past experience in determining an individual’s self-concept, or level of self-esteem would appear to engender the use of particular control mechanisms to protect the sense of self, and hence, level of subjective well-being.

#### ***1.4.2 Links between self-esteem and perceived control***

The operation of primary and secondary control mechanisms reinforces the existing sense of self and maintains levels of subjective well being (Heckhausen & Schulz, 1995, 1998; Rothbaum et al., 1982). For non-depressed people, the utilisation of appropriate secondary control mechanisms allows the individual to reappraise unfavourable events such that they do not challenge a favourable self-concept.

Such individuals may also prepare themselves for the possibility of future failure by accessing various preparatory strategies such as defensive pessimism (Norem & Cantor, 1986), self-handicapping strategies (Berglas & Jones, 1978) or downward social comparison (Wood et al, 1994). Consistent experience of failure has been demonstrated to lower feelings of self-esteem (Feather, 1972) and to engender particular types of response which acts to protect the individual’s existing self-concept (Alloy & Abramson, 1982).

External factors such as socio-economic status, education level and social network resources have also been demonstrated to affect particular coping strategies (Holahan & Moos, 1987; Thompson et al, 1996). Better educated, more affluent groups of high socio-economic status are more likely to use adaptive strategies involving flexibility, logical choice and problem-focussed strategies and less likely to use avoidance strategies such as selective ignoring or denial (Holahan & Moos, 1987).

Therefore, individuals have a reciprocal relationship with the environment that affects both their sense of self and their perception of control.

### **1.5 SUMMARY**

Consistent research has demonstrated that the majority of people, apart from chronically disadvantaged groups, report positive levels of subjective well being. It is theorised that this result is engendered through a self-protective, cognitive device constituted by the mechanisms of perceived primary and secondary control. The manner in which these mechanisms are linked both influences, and is influenced by, the individual's level of self-esteem. The concept of self is considered to be of critical importance in setting an individual's level of subjective well being.

### **1.6 THE AIMS OF THIS STUDY**

This study seeks to examine the nature and function of primary and secondary control mechanisms and their relationship to self-esteem and subjective well being in a marginalised group and to compare these results with a control group. It also seeks to examine whether these processes are relevant to individuals at various stages of MMT. People on MMT programmes for a short-term period are regarded as representing chronically disadvantaged members of society and would be expected to reveal low levels of SWB and self-esteem. Research has demonstrated that individuals on MMT programmes for a longer period demonstrate improvements in objective living conditions and improved social reintegration, although there has been scant research on their perspective of their situation. If the hypothesis that primary and secondary control mechanisms are a fundamental link in the setting of levels of SWB is correct, it would be expected that people on MMT programmes for a longer term would demonstrate the utilisation of different types of control mechanisms, improved self-esteem and SWB.

## 1.7 HYPOTHESES

***1.7.1 Hypothesis 1: That people on MMT programmes for six months or less will demonstrate lower levels of subjective well being than people on MMT programmes for more than six months or controls.***

Chronically disadvantaged groups facing severe objective hardships have been demonstrated to reveal low levels of SWB. The improved living conditions and social reintegration of people on MMT programmes for long term periods would be expected to increase their level of SWB to an extent.

***1.7.2 Hypothesis 2: That people on MMT programmes for six months or less will use primary control mechanisms to a lesser extent than people on MMT programmes for more than six months or controls.***

Primary control mechanisms are associated with a sense of self-efficacy and mastery, have primacy over secondary control mechanisms and are associated with better psychological well being. The individual who is stabilised on a MMT programme with improved health, social and employment status, would be expected to utilise more primary control mechanisms.

***1.7.3 Hypothesis 3: That people on MMT programmes for six months or less will use secondary control mechanisms to a greater extent than people on MMT programmes for more than six months or controls.***

Secondary control mechanisms are theorised to act as a buffer when primary control mechanisms fail or are unavailable. As those individuals on programmes for less than six months are not expected to have access to a wide variety of primary control mechanisms, it is expected that they would utilise more secondary control mechanisms.

***1.7.4 Hypothesis 4: That people on MMT programmes for six months or less will demonstrate lower levels of self-esteem than people on MMT programmes for more than six months or controls.***

Self-esteem has been linked to the level of an individual's SWB and to belief in control over one's physical and social environment. It is expected that, given their chronically difficult situation, people on MMT programmes for six months or less will demonstrate low levels of self-esteem and, accordingly, that this will be related to their low levels of SWB and perceived control.



***1.7.5 Hypothesis 5: That the combination of primary control, secondary control and self-esteem will be a powerful predictor of subjective well-being.***

This exploratory hypothesis rests on prior research indicating that these three variables may operate together to maintain an individual's sense of subjective well-being. Of particular interest is the role of secondary control which is largely unexplored.

## **Method**

### ***2.1 Subjects***

The short-term (ST) group was comprised of 34 people (32 percent female) who had been on their current MMT programme for six months or less. Forty-seven percent were aged between 21-30, twenty-three percent were aged 31-40, and twenty-three percent were aged 41 and over. A majority (67.6 percent) was unemployed with 17.6 percent reporting part-time work. Most (67.6 percent) had dropped out of a programme before. Forty-four percent reported using opiates for 2-5 years previously, with twenty-six percent having used opiates for 0-1 year, and 6 years or more. Eighty-eight percent reported deciding for themselves to go on a MMT programme.

The long-term (LT) group was comprised of 37 people (2.4 percent female). Forty percent were aged 31-40, and thirty-eight percent were aged 21-30. Twenty-one percent were aged forty and over. A majority reported either casual work (23.5 percent), part-time work (14.7 percent) or full-time work (23.5 percent) Forty-eight percent were unemployed. Fifty-nine percent reported dropping out of a previous programme. A majority (46 percent) reported a six-year or more history of opiate use, with 35 percent reporting 2-5 years and 19 percent reporting 0-1 year. A majority (81 percent) reported that they had decided to go on programmes of their own volition.

The control group was comprised of 96 people (45.8 percent female). Fifteen percent were aged 16-20, 39.6 percent were aged 21-30, 17.7 percent were aged 31-40 and 27.1 percent were aged 40 and over. Forty-six percent were unemployed, with 19.8 percent reporting casual work, 15.6 percent reporting part-time work and 18.7 percent reported full-time work.

## 2.2 Materials

A questionnaire comprised of three scales was used in this study and is reproduced in Appendix A.

### 2.2.1. *The Comprehensive Quality of Life Scale-A (ComQol A5, Fifth edition) (Cummins, 1997).*

The subjective scale from this instrument was used. Subjective Quality of Life (SQOL) is measured over the seven domains of Productivity, Community, Emotional Well-Being, health, Intimacy, Material Well-Being and Safety. Research (Cummins, 1996) has found that the ComQol domain data do not differ from single-item measures of life-satisfaction and that the within-study variance is lower using ComQol rather than using a large number of variables. In this scale, satisfaction is weighted by importance.

For this study a 10-point scale was introduced to replace the original 5 point Likert scale with category labels. Cummins (1998, in press) argued that the 10 point end-defined scale was preferable in the field of SQOL measurement because it will heighten sensitivity. This is because:

- a) SQOL data are consistently negatively skewed which means people respond only to a restricted portion of the conventional scale.
- b) SQOL has a high trait component and small deviations are highly meaningful. It is also argued that the convention of naming response categories is unnecessary (Cummins, 1998 in press) and detracts from the interval nature of the scale. This scale reveals patterns of data consistent with the QOL literature that supports the content and construct validity of the scale (Cummins et al., 1994; Cummins, 1997).

### 2.2.2 *Cognitive Behavioural Control Questionnaire (CBCQ), (Heeps, 1998)*

This exploratory scale of 22 items measured on a 10 point end-defined scale measures the utilisation of primary and secondary control mechanisms. Heeps (1998) noted that there is general consensus amongst researchers that primary control strategies represent coping strategies that attempt to directly influence the environment, whereas secondary control strategies focus on adjusting one's emotional reaction to the problem. He argued that few investigations have attempted to operationalise secondary control, and even fewer have attempted to measure both the

cognitive and behavioural strategies that may be considered to constitute secondary control. This instrument appears to have high face validity, with each item representing either primary control or a specific secondary control strategy.

Items adapted from already existing scales include:

Item 13: derived from the COPE scales (Carver et al., 1989, p.272).

Items 15, 17, 18, 20, 21: adapted from the secondary control sub-scale of the OPS scales developed by Heckhausen, Schulz and Wrosch (1998).

Items 2, 4, 6, 8, 10, 12, 14: adapted from the primary control sub-scale of the OPS scales developed by Heckhausen et al., (1998).

All other items were devised by Heeps (1998) apart from Item 16, which was added by myself to represent avoidance or denial.

Heeps (1998) adapted the following items from Rothbaum, Weisz and Snyder (1982):

- a) Item 1: predictive secondary control
- b) Items 3, 5: vicarious secondary control
- c) Items 11, 19: illusory control
- d) Item 7: personal gift secondary control
- e) Item 22: behavioural secondary control
- f) Item 9: interpretive secondary control

### *2.2.3 Rosenberg Self-Esteem Scale (Rosenberg, 1965)*

Rosenberg's (1965) scale is the most widely used self-report instrument for assessing global self-esteem (Marsh, 1996) and is also considered to measure self-concept stability (Campbell et al., 1996). This 10 item scale includes both positively and negatively worded items. Items 1, 3, 7 and 10 were recoded so that higher scores on the scale indicated higher self-esteem. This scale takes two to three minutes to complete, is easy to administer and has satisfactory reliability and face validity. Marsh (1996) determined that the scale represented a single factor however method effects were also evident. Rosenberg's scale has a test-retest reliability coefficient of .82 (Rosenberg, 1965) and has face validity. It has a consistent and strong relationship with other scales measuring similar constructs (Rosenberg, 1965). This scale was also presented as a 10-point, end-defined scale.

### **2.3 Procedure**

Approval to conduct the study was given by the Deakin University Ethics Committee. To locate the MMT groups, four prescribing General Practitioners in North East Victoria and one prescribing General Practitioner with a large practice in Melbourne gave their approval to assist in the acquisition of participants. Following approval from the General Practitioners, the dispensing pharmacists were approached and asked if they would hand the Plain Language statement to people as they came in for their daily medication. The researcher waited in a discreet part of the pharmacy and was approached by any people on the MMT programme who wished to participate. Each questionnaire was filled out with the assistance of the researcher, either in the pharmacy itself, or in adjacent car parks, coffee shops or sitting on park benches. On some occasions the researcher was able to use a private room in which to conduct the interview – in a private practice in Melbourne with a large number of patients on MMT, in a rural private practice, and in a rural hospital. The questionnaire was anonymous so consent forms were not required – return of the questionnaire signified consent. A \$5.00 Scratchie ticket was given to participants as a token of appreciation. The researcher perceived that many people who completed the questionnaire wished to comment on the MMT programme, or aspects of their own experience. Thus, at the completion of the questionnaire, the researcher asked the following question:

“Do you have any positive or negative comments to make about the MMT programme - how has it significantly affected your life?”

Notes were made by the researcher on the responses.

Control group questionnaires were distributed amongst family, friends of friends, acquaintances, to people on inter-city trains, and amongst people waiting in Department of Social Security offices.

### **Results**

The subjects ( $N= 173$ ) comprised three groups. Group 1 comprised people on MMT for six months or less ( $n=34$ ). Group 2 comprised people on MMT for more than six months continuously ( $n= 37$ ). Group 3 represented the control group ( $n= 102$ ). The data were inspected for accuracy of data entry, missing values and response sets. Three control group subjects failed to answer approximately half of the questionnaire and were deleted from the analysis. A further three control group

subjects showed evidence of a response set by answering 10 to most questions and were also deleted, leaving a control group of  $n=96$ .

Of the remaining 167 cases a total of 64 missing values were detected. This represented .74 percent of the possible 8,609 responses. There was no pattern to the missing values and these values were replaced with the group mean for each variable. Although this procedure can result in the reduction of variance for a variable because the mean is probably closer to itself than the missing value it replaces, and the correlation the variable has with other variables is reduced because of the reduction in variance (Tabachnick & Fidell, 1996), the amount of missing data was small and not considered to represent a sizeable influence.

Procedures for data screening and checking of assumptions followed those appropriate for grouped data (Tabachnick & Fidell, 1996). No univariate outliers were found,  $z>3.29$ ,  $p<.001$  for the variables subjective well-being (SWB), primary control (total), secondary control (total) or self esteem (total). For variables labelled Questions 1-46 eight univariate outliers were found.

Using the criterion of Mahalanobis distance with  $\alpha=.001$ ,  $df=4$ , no multivariate outliers were found on the variables SWB, primary control, secondary control, or self esteem. Using the criterion of Mahalanobis distance with  $\alpha=.001$ ,  $df=46$ , no multivariate outliers were found on Questions 1-46. There was also no evidence of multicollinearity.

Variables SWB, primary control, secondary control and self-esteem and Q1-46 were assessed for normality. None demonstrated significant skewness, using the criteria  $skew/SE\ skew<3$  (Tabachnick & Fidell, 1996). Kurtosis values were not considered to represent a severe underestimation of the variance of the variables. Kolmogorov Smirnov values for Groups 1-3 on the variables SWB, primary control, secondary control and self-esteem were also not significant, indicating normality.

Frequency histograms and normal probability plots were examined for each variable and the distributions appeared to be normal. Some negative skew found in Q1-46 was to be expected in these types of data in which a majority of people respond more positively to questions. Homoscedasticity and linearity was assessed through bivariate scatterplots and these appeared to demonstrate a reasonable linear relationship between the variables.

It was decided to retain the univariate outliers in the analysis. These subjects were considered to have given valid responses to questions and their inclusion

improves the generalisability of results (Tabachnick & Fidell, 1996). No other action was taken to change the character of the data set.

### ***3.1 Factor analysis of primary and secondary control mechanisms***

An exploratory factor analysis was run to determine whether the CBCQ scale produced significant differential factors representing primary and secondary control. A list of CBCQ questions comprising secondary control mechanisms is found in Appendix D. A correlation matrix for each group was inspected for Q 1-22 (CBCQ) and revealed a dissimilar correlation pattern between the MMT groups and the control group. The correlation matrices of the MMT groups revealed a broadly similar pattern and therefore it was decided to combine these groups for analysis. Two separate factor analyses for the combined MMT groups and the control group were performed using varimax rotation. The aim was to identify any latent variables underpinning the processes of primary and secondary control.

#### ***3.1.1 Factor analysis of control group on CBCQ***

Examination of the correlation matrix revealed the presence of correlations greater than .3, which is considered necessary for factor analysis. The KMO measure of sampling adequacy was .752 indicating that the variables belong together and are appropriate for factor analysis. The Barlett's test of sphericity was significant but Tabachnick and Fidell (1996) argue that unless cell sizes are  $<5$  this statistic is not of concern.

Examining the communalities table, a four-factor solution explains over 50 percent of the variance for Q 3, 4, 11, 13, 19, and 21, and over 40 percent of the variance for Q 2, 6, 8, 9, and 12. The four-factor solution explains 43 percent of the variance as shown in Table 1.

Table 1

Control Group Variance Explained for a Four-Factor Solution

Factor	Initial eigenv.			Cum %		
	Total	%of var.	Cum.%	Total	%of var.	Cum.%
1	5.53	26.33	26.33	2.17	10.34	10.34
2	2.36	11.25	37.58	4.05	19.28	29.62
3	1.75	8.34	45.92	1.71	8.16	37.79
4	1.51	7.21	53.13	1.13	5.42	43.22

The reproduced correlation matrix revealed that there were 36 percent of residuals with absolute values  $>.05$ , therefore the 4-factor solution is not ideal.

The questions comprising these factors are reproduced in Table 2.

Table 2

Factor loadings for Exploratory Factor Analysis of CBCQ Scale for Control Group

Factor	Variable	Factor loading
1	Q12	.53
	Q13	.57
	Q14	.54
	Q17	.43
	Q18	.39
	Q19	.67
	Q21	.72
2	Q2	.62
	Q4	.66
	Q6	.65
	Q8	.56
	Q20	-.58
3	Q5	.57
	Q9	.51
	Q10	.61
	Q11	.74
4	Q3	.98

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Q7	.37
Q15	.43

---

There do appear to be latent variables underpinning these factors. Factor 1 represents a combination of both primary and secondary control mechanisms. It focuses on positive action and positive self-talk. Factor 2 represents direct action and is comprised of primary control mechanisms. Factor 3 centres on self-consoling strategies and dependence on others for assistance. This factor is mainly comprised of secondary control mechanisms although actively seeking assistance from others is included. Factor 4 involves removing the self from the decision-making process and thinking of more pleasant things. This factor is comprised of secondary control mechanisms. A list of questions comprising control group factors is found in Appendix F.

### 3.1.2 Factor analysis of ST and LT Groups on CBCQ

Examination of the correlation matrix revealed the presence of correlations greater than .3, which is considered necessary for factor analysis. The KMO measure of sampling adequacy was .701. The Bartlett's test was significant. Examining the communalities table, a three factor solution explains over 50 percent of the variance in Q 3, 11, 13, 18, and 21, and over 40 percent of the variance in Q 8 and 12. It explained less than 20 percent of the variance in Q 1, 2 and 7. The three-factor solution explains 34 percent of the variance as shown in Table 3

Table 3

#### ST and LT Group Variance Explained for a Three Factor Solution

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Factor	Initial Eigenvalues			Squared Loadings		
	Total	% of Var.	Cum%	Total	% of Var.	Cum %
1	5.51	26.24	26.24	4.37	20.81	20.81
2	2.01	9.58	35.83	1.62	7.72	28.53
3	1.66	8.03	43.86	1.34	6.36	34.89

---



The reproduced correlation matrix revealed that there were 47 percent of residuals with absolute values  $>.05$ , therefore the three-factor solution is not ideal.

The questions comprising these factors are found in Table 4.

Table 4

Factor Loadings for Exploratory Factor Analysis of CBCQ Questionnaire for LT and ST Groups

Factor	Variable	Factor loading
1	Q4	.53
	Q11	.93
	Q13	.50
	Q18	.73
	Q19	.49
	Q21	.57
2	Q6	.46
	Q8	.65
	Q9	.58
	Q10	.39
	Q12	.67
	Q14	.56
3	Q1	.44
	Q3	.69
	Q17	.34
	Q20	.44

Factor 1 is largely composed of secondary control mechanisms and centres on positive self-talk and positive intra-individual comparisons. Factor 2 represents direct action and is largely comprised of primary control mechanisms. Factor 3 consists of secondary control mechanisms and represents goal disengagement and self-reassurance. A list of questions comprising ST and LT group factors is found in Appendix E.

The results of these factor analyses indicate that the CBCQ scale does differentiate between primary and secondary control. Primary control was clearly delineated as a separate factor in analyses of both groups. As was expected, secondary control is a more complex factor, and a number of factors included both primary and secondary control mechanisms. Because of the different factors exhibited by both the MMT groups and the control groups, it was decided not to continue using the factors for more formal analyses, but to use all the items in the scale.

### ***3.2 Differences between groups on SWB, primary control, secondary control and self-esteem***

To test Hypotheses 1, 2, 3 and 4; that there would be group differences in SWB, primary control, secondary control and self-esteem, a one-way multivariate analysis of variance was run where the independent variable was group and the dependent variables were SWB, primary control, secondary control and self esteem.

Levene's test of equality of error variance indicated that primary control demonstrated some inequality of error variance across groups,  $F(2,164)=4.555$ ,  $p<.05$ . However, the other variables did demonstrate equality of error variance and so this was not considered to be a major threat to the analysis. Sample sizes of each cell were unequal, however Tabachnick and Fidell (1996) argue that even with unequal  $n$  and only a few dependent variables, a sample size of about 20 in the smallest cell will ensure robustness. In this analysis Box's  $M=31.299$ ,  $p>.05$  indicating that the observed covariance matrices of the dependent variables were equal across groups. This indicates a reasonably robust analysis. Bartlett's Test of Sphericity was significant but cell sizes were larger than five so this was not considered to be deleterious to the analysis.

The use of Pillais criterion indicated that the combined dependent variables were significantly different according to group,  $F(8,324)=8.650$ ,  $p<.001$ . This reflected a reasonably robust relationship between the groups and the best linear combination of dependent variables,  $\eta^2=.176$  with power of 1. There were significant differences between groups on SWB  $F(2,164)=35.417$ ,  $p<.001$ ; self esteem  $F(2,164)=13.519$ ,  $p<.001$ ; primary control,  $F(2,164)=3.895$ ,  $p<.05$  and secondary control  $F(2,164)=5.777$ ,  $p<.05$ . The strongest relationship between group and the dependent variables was found in SWB,  $\eta^2=.302$  with power of 1, and self esteem,  $\eta^2=.142$  with

power of .998. More modest relationships were evident with secondary control,  $n_2=.066$  with power of .864 and finally primary control,  $n_2=.045$  with power of .697.

The differences between each group and the four dependent variables revealed in Table 1 was assessed with the use of Bonferroni's Post Hoc tests. All means were converted to a percentage scale maximum score (%SM) to adjust for the different numbers of questions in each variable. This formula expresses each original domain score as a percentage of the maximum score possible using the particular measurement scale. The formula is  $(\text{mean score from the original domain}-1) \times 100/(\text{no. of scale points}-1)$

Table 5

Mean Scores of ST and LT Groups on Subjective Well-Being, Self-Esteem, Primary Control and Secondary Control.

Variable Name	Group	%SM	Std Error
SWB	ST	54.73	2.21
	LT	57.14	2.12
	C	72.85*	1.31
Primary Control	ST	72.64	2.28
	LT	71.42	2.18
	C	78.19	1.35
Secondary Control	ST	60.66	2.05
	LT	57.44	1.97
	C	65.06**	1.22
Self Esteem	ST	52.62	2.99
	LT	56.51	2.87
	C	68.63*	1.78

Group ST=Short term MMT

\*Significantly higher than both ST and LT

Group LT=Long term MMT

\*\*Significantly higher than LT

Group C=Control

From Table 5 it can be seen that the control group demonstrated significantly higher scores than either the short-term or long-term MMT groups on all variables except primary control. The long-term group used secondary control mechanisms to a significantly lesser extent than the control group. The control group had significantly higher self-esteem than either the short-term or long-term groups. There was no significant difference between the groups regarding the extent of primary control mechanisms used.

### ***3.3 Differences between groups on the 7 domains comprising SWB***

To clarify the finding relevant to Hypothesis 1 that the SWB of controls was significantly higher than either MMT group, a one way multivariate analysis of variance was used to analyse the differences between the groups on the seven dependent domain variables of material well being, health, intimacy, safety, community, productivity, and emotional well-being.

Levene's test of equality of error variance indicated that four variables demonstrated some inequality of error variance across groups: achievement, health, intimacy and material well being. Box's  $M= 185.905$ ,  $p<.001$ , indicated that the homogeneity of variance-covariance matrices had been violated. Robustness in this analysis was not guaranteed and indications of mean differences will be treated cautiously. Bartlett's Test of Sphericity was significant.

Pillais criterion indicated significant differences between groups,  $F(14,318)=5.493$ ,  $p<.001$ ,  $\eta^2=.195$  with power of 1. Significant differences were found between the groups on all domains, with strength of association ranging from  $\eta^2=.094$  with power of .963 for safety, to  $\eta^2=.281$  with power of 1 for health.

The differences between each group on each domain were assessed using Bonferroni's Post Hoc tests as before and results are presented in Table 6.

Table 6

#### Mean Scores of ST, LT and Control Groups on Productivity, Community, Emotional Well Being, Health, Intimacy, Material Well Being and Safety

Variable	Group	Mean	Std Error
Productivity	ST	51.15	3.41

	LT	52.35	3.27
	C	70.59*	2.03
Community	ST	53.43	2.85
	LT	56.15	2.73
	C	68.06*	1.69
Emotional	ST	57.02	3.49
	LT	61.47	3.34
	C	73.67*	2.07
Health	ST	48.04	3.62
	LT	45.06	3.47
	C	72.89*	2.15
Intimacy	ST	58.53	3.72
	LT	62.72	3.57
	C	81.89*	2.21
Material	ST	52.55	2.83
	LT	56.37	2.71
	C	66.93*	1.68
Safety	ST	62.27	3.32
	LT	66.48	3.19
	C	76.63*	1.97

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ST= Short-term MMT      \*=Significantly higher than ST and LT

LT=Long-term MMT

C=Controls

Inspection of the means in Table 5 indicates that the control group scored significantly higher than either the short or long term MMT groups on all seven domains. The highest scores for Controls were found on Intimacy (%SM=81.89, SE=2.21), Safety (%SM=76.63, SE=1.97), and Emotional Well-Being (%SM=73.67, SE=2.07). For the MMT groups, the highest scores were found on Safety, Emotional Well-being and Community.

### 3.4 Prediction of SWB from self-esteem, primary control and secondary control

Hierarchical multiple regression analysis was employed to test Hypothesis 5 that the combination of self-esteem, primary control and secondary control would be a powerful predictor of SWB. Separate regression analyses were run on the grouped data. The dependent variable in this analysis was not group, but SWB. The question of interest was whether the prediction of SWB by the three independent variables: self-esteem, primary control and secondary control would differ between the groups. As cited in Tabachnick and Fidell (1996) separate regression analyses may be run to compare the relative importance of IVs in influencing outcomes between different groups. As this analysis was run on grouped data, assumptions were considered to have been met. As self-esteem is considered to be a stable predictor of SWB, this variable was entered first. Primary control is considered to have primacy over secondary control and was entered second. The role of secondary control in relationship to SWB is as yet unclear and was entered last.

#### *ST Group*

For the ST group, after Step 1, with self-esteem in the equation,  $R_2 = .183$ ,  $F(1,32) = 7.173$ ,  $p = .012$ . After Step 2, with level of primary control added to prediction of SWB,  $R_2 = .343$ ,  $F(2,31) = 8.092$ ,  $p = .001$ . After Step 3 with level of secondary control added to the equation,  $R_2 = .350$ ,  $F(3,30) = 5.38$ ,  $p = .004$ .

The addition of primary control to the equation resulted in a significant increment in  $R_2$  ( $R_2$  Change = .16,  $F$  Change(1,31) = 7.55,  $p = .01$ ). The addition of secondary control to the equation did not result in a significant increment in  $R_2$  ( $R_2$  Change = .007,  $F$  Change(1,30) = .315,  $p = .58$ ). Only self-esteem ( $sr_2 = .18$ ) and primary control ( $sr_2 = .16$ ) contributed significantly to prediction of SWB.

Table 7

#### Predicting Total Score on ST MMT group from Self-Esteem, Primary Control and Secondary Control

##### Step 1

Variables	Beta	sr <sub>2</sub>	F	Sig F
Self-esteem	.428	.183	7.17	.012

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<b>Multiple R</b>	.428			
<b>R Square</b>	.183			
<b>Adj R Square.</b>	.158			
<b>S.Error</b>	14.16			
Step 2				
<b>Variables</b>	<b>Beta</b>	<b>sr2</b>	<b>F</b>	<b>Sig F</b>
Self-esteem	.112	.16	8.092	.001
Primary	.510			
Control				
<b>Multiple R</b>	.586			
<b>R Square</b>	.343			
<b>Adj R Square</b>	.301			
<b>S.Error</b>	13.04			
Step 3				
<b>Variables</b>	<b>Beta</b>	<b>sr2</b>	<b>F</b>	<b>Sig F</b>
Self-esteem	.096	.007	5.381	.004
Primary	.462			
control				
Secondary	.101			
Control				
<b>Multiple R</b>	.591			
<b>R Square</b>	.350			
<b>Adj R Square</b>	.285			
<b>S.Error</b>	13.04			

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#### *LT Group*

For the LT group, after Step 1 with self esteem included in the equation,  $R^2=.20$ ,  $F(1,35)=8.82$ ,  $p=.005$ . After Step 2, with primary control added to prediction of SWB,  $R^2=.21$ ,  $F(2,34)=4.45$ ,  $p=.019$ . The addition of primary control did not result

in a significant increment in  $R^2$  ( $R^2$  Change=.006,  $F$  Change(1,34)=.275,  $p$ =.60). After Step 3 with secondary control added to the equation,  $R^2$ =.208,  $F$  (1,33)=2.883,  $p$ =.05. The addition of secondary control did not result in a significant increment in  $R^2$  ( $R^2$  Change=.00,  $F$  Change (1,33)=.00,  $p$ =.99). For the LT group only self-esteem ( $sr^2$ =.20) contributed significantly to prediction of SWB.

Table 8

Predicting Total Score on LT MMT group from Self-Esteem, Primary Control and Secondary Control

Step 1				
Variables	Beta	sr2	F	Sig F
Self-esteem	.449	.201	8.81	.005
<b>Multiple R</b>	.449			
<b>R Square</b>	.201			
<b>Adj R Square</b>	.178			
<b>S.Error</b>	12.79			
Step 2				
Variables	Beta	sr2	F	Sig F
Self esteem	.389	.006	4.55	.019
Primary Control	.100			
<b>Multiple R</b>	.456			
<b>R Square</b>	.208			
<b>Adj R Square</b>	.161			
<b>S.Error</b>	12.93			
Step 3				
Variables	Beta	sr2	F	Sig F
Self-esteem	.389	.001	2.883	.05
Primary Control	.101			
Secondary Control	-.002			
<b>Multiple R</b>	.456			
<b>R Square</b>	.208			
<b>Adj R Square</b>	.136			
<b>S.Error</b>	13.1286			



*Control group*

For Controls, with self esteem added to the equation,  $R^2=.134$ ,  $F(1,94)=14.524$ ,  $p=.00$ . After Step 2, with primary control added to prediction of SWB,  $R^2=.322$ ,  $F(2,93)=22.05$ ,  $p=.00$ . The addition of primary control to the equation resulted in a significant increment in  $R^2$  ( $R^2$  Change $=.19$   $F$  Change  $(1,93)=25.75$ ,  $p=.00$ ). After Step 3 with the addition of secondary control  $R^2=.394$ ,  $F(3,92)=19.91$ ,  $p=.00$ . The addition of secondary control resulted in a significant increment in  $R^2$  ( $R^2$  Change $=.072$ ,  $F$  Change  $(1,92)=10.924$ ,  $p=.001$ ). All the variables in the equation contributed significantly to prediction of SWB: self esteem ( $sr^2=.13$ ), primary control ( $sr^2=.19$ ) and secondary control ( $sr^2=.07$ )

Table 9

Predicting Total Score for Controls on SWB from Self-Esteem, Primary Control and Secondary Control

Step 1				
Variables	Beta	sr <sup>2</sup>	F	Sig F
Self-esteem	.366	.134	14.52	.001
<b>Multiple R</b>	.366			
<b>R Square</b>	.134			
<b>Adj R Square</b>	.125			
<b>S.Error</b>	10.64			
Step 2				
Variables	Beta	sr <sup>2</sup>	F	Sig F
Self-esteem	.185	.188	22.05	.001
Primary control	.470			
<b>Multiple R</b>	.567			
<b>R Square</b>	.322			
<b>Adj R Square</b>	.307			
<b>S.Error</b>	.472			

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Step 3				
Variables	Beta	sr2	F	Sig F
Self-esteem	.189	.072	19.91	.001
Primary control	.335			
Secondary control	.300			
<b>Multiple R</b>	.627			
<b>R Square</b>	.394			
<b>Adj R Square</b>	.004			
<b>S.Error</b>	10.64			

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### *3.5 Analysis of qualitative data*

Each person was asked the question “ Do you have any positive or negative comments to make about the MMT programme – how has it significantly affected your life?” Responses followed patterns which were coded under sub-headings.

Table 10

#### Personal Comments of Short and Long Term Groups on the MMT Programme

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<b>Long term group positive responses</b>	<b>% of group</b>
Makes me feel normal/ better/ stable/ saved my life	56.7
Improved employment, financial status	13.5
Improved family relationships	8.1
Improved sense of security	8.1
Able to achieve goals	5.4
<b>Long term group negative responses</b>	
Cost of medication	36
Daily pick-up of medication	16.2
Stigmatisation	16.2
Difficulty in travelling	14.2

Side effects	13.5
Difficulty of withdrawal	8.1
Lack of support	5.4
Feel controlled by the system	2.7
<b>Short term group positive responses</b>	
Makes me feel better/ more balanced/ clear headed/ focussed	47.2
Stops me using heroin	17.6
Stops crime	15.7
Stabilised relationships	15
New peer group	9
Helps me focus	9
Sense of accomplishment	5.8
<b>Short term group negative responses</b>	
Side effects	32.3
Stigmatisation	26.4
Daily pick-up of medication	26.4
Difficulty with travel	20.5
Cost	11.7
More addictive than heroin	5.9
Difficulty of withdrawal	5.9
Lack of counselling	5.9

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As shown in Table 9, the majority of people reported positive aspects of MMT in regard to improved stability and feeling better about their lives. Cost of medication, stigmatisation and travel limitations were highlighted by the LT group. The ST group highlighted side effects, stigmatisation and travel limitations.

### ***3.6 Overview of results***

Hypothesis 1 was partially supported by these findings. The Control group revealed significantly higher levels of SWB than either MMT group. However, there

was no significant difference between the SWB of the ST and LT groups. Controls had significantly higher scores in all seven domains constituting SWB.

Hypothesis 2 was not supported. There were no between-group differences in the extent of primary control.

Hypothesis 3 was not supported. The Control group used significantly more secondary control than the LT group, but not significantly more than the ST group.

Hypothesis 4 was partially supported. The Control group had higher self-esteem than either MMT group. There was no significant difference between the self-esteem of the ST and LT groups.

Hypothesis 5 was partially supported. Primary and secondary control, and self-esteem, were significant predictors of SWB for the Control group. Primary control and self-esteem were significant predictors of SWB for the ST group. Only self-esteem was a significant predictor of SWB for the LT group.

### **Discussion**

The major finding from this study was that those in both the ST and LT groups revealed significantly lower levels of SWB than Controls. Indeed, both MMT groups revealed levels of SWB equal to that of prison inmates (Jones, 1995) and amongst the lowest revealed in any group so far (Cummins, 1997). By contrast, the level of SWB of the Control group equalled 72.85 %SM which is equivalent to that of the general population and consistent with the level of SWB reported amongst the majority of people.

Hypothesis 1 was partly supported in that the ST group did reveal significantly lower levels of SWB than Controls. Initial entry to a MMT programme indicates that an individual is acknowledging that they require help. Eighty-eight percent of ST individuals reported that they decided to enter the programme of their own volition although many individuals interviewed noted that they were also influenced in their decision by their families.

However, Hypothesis 1 was not supported in that although the long term (LT) group revealed slightly higher levels of SWB than the ST, the difference was not significant. Given the effectiveness of MMT as a harm reduction strategy (e.g. Rhodes & Grossman 1997) it was expected that this group would report significantly improved SWB. This was not the case.

Examination of the differences reported in the various domains which constitute SWB provides more detailed explanation of these results.

#### *4.1 The seven domains constituting SWB*

##### *4.1.1 Health: "I don't want to get stoned, I just want to feel normal"*

The domain revealing the lowest level of satisfaction for the MMT groups was that of Health. This is not surprising given the health consequences of illegal 'street drug' use and the associated lifestyle. However, contrary to the prediction, the LT group reported even lower levels of satisfaction with Health ( $45.1 \pm 3.5\%SM$ ) than the ST group ( $48 \pm 3.5\%SM$ ). That those on LT programmes have had longer regular contact with their GP and may have become aware of various significant medical complaints (e.g. HIV/AIDS, Hepatitis C). This result may also be due to their duration of opiate use. In this sample, forty-six percent of the LT group reported a six-year or more history of opiate use. By contrast, twenty-six percent of the ST group reported a six-year or more history of opiate use. For this sample, the age of the individual did not affect their reported satisfaction with Health, as there were twenty-three percent in the 40 and over age group in the ST group and twenty-one percent in the 40 and over age group in the LT group.

Whilst being interviewed, both groups reported negative physical side effects from methadone although the ST group reported more (32 percent) than the LT group (13.5 percent). However, the awareness of chronic health problems did not seem to emerge until after individuals were on the MMT programme for longer than six months, and is reflected in their lower satisfaction with health.

##### *4.1.2 Productivity: "We need more stories of success and survival"*

For the domain of achievement, the LT and ST groups reported levels which were significantly lower than that of Controls. A sense of mastery is considered integral to life satisfaction (Taylor, 1983). It is apparent that those in the LT group are not perceiving their persistence in staying on a MMT programme as evidence of achievement. This may be because of the stigmatisation, associated with participating

in a MMT programme, reported in the interview by both groups. It is postulated that this is also a result of the general community's abhorrence towards opiate use.

The persistence of the prohibitionist attitude, in spite of harm minimisation policies, reinforces the message that abstinence or withdrawal are preferable to MMT. Therefore, individuals on MMT programmes may not perceive their adherence to treatment as an achievement.

#### *4.1.3 Material Well-Being: "I'm willing to give up something to get something better"*

Both MMT groups reported low levels of satisfaction with Material Well-Being. Although this was expected for the ST group, it was expected that the increased rate of employment evidenced by the LT group would improve their satisfaction in this domain. Sixty-eight percent of the ST group were unemployed compared with forty eight percent of the LT group which supports research indicating that MMT programmes facilitate opportunities for employment.

#### *4.1.4 Community: "I'm too straight to be accepted by the junkies; too stigmatised by my past for the straights"*

Satisfaction with place in the community was low for both MMT groups. Whilst this was expected for the ST group, it was expected that those in the LT group might have stabilised their lives and felt more satisfied within their community.

Lack of social skill, stigmatisation, and the difficulty of finding a supportive peer group within the broader community weigh heavily against the individual on an MMT programme. Improvements in literacy, life skills and social skills amongst individuals on MMT programmes are not adequately addressed (Krautschun, 1998). Although many individuals on MMT do not seek or require counselling and supportive services, others do acknowledge the need for more support (Lintzeris et al., 1996). It is possible that the types of counselling services currently available are not pinpointing critical areas. As an example, literacy and social skills for individuals on MMT programmes (Krautschun, 1998) or personal construct therapy which seeks to widen the choice of available roles for the individual (Klion & Pfenninger, 1997) may be useful and productive avenues to investigate. However, until the broader community acknowledges the efforts of those on MMT programmes and encourages their re-integration into the community, little is likely to change.

*4.1.5 Emotional Well-Being: “(When you go on MMT) it’s like being in a relationship for years and then you have to start again”*

Both MMT groups reported significantly lower levels of emotional well-being than that of the Control group. This is not a surprising finding given the ramifications of their chronic illness and the external constraints to which they must adhere in dealing with this illness. This result also reflects the low levels of satisfaction found in the other domains, particularly in the domain of intimacy.

*4.1.6 Safety: “It tells me this is what I am, this is what I’m going to do”*

The MMT groups scored higher in the domain of safety than any other domain. However, both groups scored significantly lower than the Control group. In normal populations, intimacy rather than safety is scored highly. This finding highlights the difficulty of reconciling this group’s need for stability and security with their need to acquire self-confidence.

*4.1.7 Intimacy: “My family trusts me more”*

Of all domains, the Control group scored highest in the domain of Intimacy. This domain is consistently found to generate the highest scores amongst the general population, apart from people who are psychiatrically disturbed (Cummins, 1995). The MMT groups scored significantly lower than the Control group in this domain. This finding has implications for the further findings in the area of secondary control and will be discussed in that context.

Overall, both MMT groups demonstrated significantly low levels of SWB in all domains. Their use of primary control is likely to be affected by, and to affect, this low level of SWB.

## **4.2 Primary control**

Hypothesis 2, which predicted that the ST group would use less primary control than the LT group or Controls, was not supported. No significant differences were found between the groups’ levels of primary control. However, Hypothesis 5 which predicted that primary control would be a powerful predictor of SWB was supported. Regression analyses revealed that primary control was a predictor of SWB for the ST group and the Control group.

It has been previously demonstrated that perceived primary control is associated with better psychological outcomes (Langer, 1973; Bandura, 1983; Shapiro, Schwartz & Astin, 1996). However, research has also demonstrated (Averill, 1973) that perceived control over a stressor can increase stress rather than reduce it, depending on the context of the situation. Beliefs in active personal control are not always facilitative or desirable and can lead to increased anxiety as well as self-blame (Shapiro, Schwartz & Astin, 1996). Active attempts at mastery or control are most effective if events are indeed objectively controllable (Nowack, 1989). Primary control is most adaptive in situations where the threat is less severe (Affleck, Tennen, Pfeiffer & Fifield, 1987). This research is supported by the findings of this study.

There may be a number of explanations as to why primary control is a predictor of SWB for the ST but not the LT group. First, those on the ST group have only recently entered an MMT programme and may feel that that this action will have positive consequences for their lives. Their hope of change may be linked with the perception that they have indeed taken direct action.

Second, forty-six percent of the LT sample reported a six year or more history of opiate use and twenty-six percent of the ST sample reported a six year or more history of opiate use. Individuals with a longer history of opiate use may feel that they are actively seeking to control their lives by persisting with the programme, even though they are more aware of its external constraints. Whilst being interviewed, they indicated that they have realised that methadone is not an end in itself, or a 'cure'; but seem to be uncertain as to where to proceed from this point.

The perception of primary control in this situation may be maladaptive. It is theorised (Heckhausen & Schulz, 1995) that in situations of greater uncontrollability, the perception of secondary control may be more adaptive.

### ***4.3 Secondary control***

Hypothesis 3 predicted that the ST group would use more secondary control mechanisms than either the LT group or the Control group. This hypothesis was not supported. The control group used significantly more secondary control mechanisms than the LT group. There was no significant difference between the secondary control of the ST group or the LT group. Supporting Hypothesis 5, a hierarchical regression



analysis revealed that secondary control only predicted SWB significantly for the Control group.

Secondary control is theorised to act as a buffer against the failure of primary control (Heckhausen & Schulz, 1995; Rothbaum, Weisz & Snyder, 1982) and has been conceptualised as acceptance of unfavourable external circumstances (Heaps, 1998). The finding that secondary control was not a predictor of SWB for either MMT group is congruent with that of Thompson et al. (1996) whose study of HIV-positive men in prison revealed that secondary control was associated with more distress for the low primary control group.

There are alternative ways of looking at these results:

- 1) Although the ST group do not use significantly fewer secondary control mechanisms than the Control group, the type of secondary control mechanisms used by this group may not be conducive to positive psychological outcomes, or SWB. For example, avoidance or denial is linked with maladaptive coping (Charlton & Thompson, 1996)
- 2) Access to secondary control may be dependent on past experience and future expectations. Because of the negative past experiences of this group, positive reframing, reinterpretation and other strategies for accepting unfavourable events may not be readily available.
- 3) Those in the LT group have been confronted with the objective reality of their situation. Avoidance strategies may no longer be an option, given the requirements involved with complying with the MMT programme. Other appropriate secondary control strategies may not be available to this group.

#### ***4.4 Self-esteem***

Hypothesis 4 was partially supported in that the control group revealed significantly higher levels of self-esteem than either MMT group. However, there was no significant difference between the self-esteem of the ST and LT groups. For all groups, self-esteem was a significant predictor of SWB. This finding is congruent with research demonstrating the importance of self-esteem to life satisfaction (Nistico & Cummins, 1997; Pavot, Fujita & Diener, 1997). That both primary and secondary control, together with self-esteem, were significant predictors of SWB for the control group supports Hypothesis 6, and is congruent with recent theoretical argument

(Cummins, 1998). It is also congruent with research demonstrating that secondary control is an important adaptive mechanism which operates in tandem with primary control to maintain self-esteem and SWB (Heckhausen, Schulz & Wrosch, 1998; Rothbaum et al., 1982).

The self-esteem of the two MMT groups did not differ. Control mechanisms have been hypothesised to act to protect existing levels of self-esteem (Heckhausen, Schulz & Wrosch, 1998) and maintain existing levels of SWB (Cummins, 1998 in press). Although primary control has been theorised to have primacy in Western cultures (Heckhausen, Schulz & Wrosch, 1998) it has been argued that secondary control is also an important component in maintaining one's self-concept and self-esteem when primary control fails (Rothbaum et al., 1982; Weisz, Rothbaum & Blackburn, 1984). The low self-esteem of both MMT groups and their low levels of SWB may be influenced by a number of factors:

- 1) Their perception of self may be limited to that of 'addict'. There may be possible links between a flexible concept of self, and the potential for other 'possible selves' (Markus & Nurius, 1986), and the ability to access secondary control which enables the self to adjust to external circumstances and maintain a sense of self-esteem.
- 2) There is a direct relationship between self-esteem and SWB (Nistico & Cummins, 1997).
- 3) Self-esteem and SWB may be directly related to maladaptive perceptions of control. There was no significant difference between the groups on the level of primary control. Primary control has been demonstrated to have negative implications when threats are objectively uncontrollable. The addict is placed in an extremely difficult situation, regarding control, when they enter a MMT programme. They demonstrate primary control by entering a programme. Yet, in taking direct action, they are also voluntarily relinquishing control over their lives. Simultaneously, the individual is aware that addiction to opiates is in itself a powerful constraint. Perceptions of primary control in this situation of low controllability may be counter-productive.

In this situation of low controllability, the use of secondary control would appear to be appropriate. However, secondary control was not a predictor of SWB for either MMT group. Because of the small sample size ( $n=71$ ) of people on MMT it was not possible to run an analysis examining the differences in types of secondary control mechanisms used by the MMT and control groups. However, Factor Analysis

of the CBCQ Scale (Heeps, 1998) revealed the presence of different factors for the MMT groups and the control group. Whilst both groups revealed the presence of a factor representing direct action, comprised mainly of primary control mechanisms, secondary control was more complex. The control group showed the presence of a factor centred on self-consoling strategies and dependence on others for assistance, (Factor 3), and a factor based on remembering past successes and thinking of more pleasant things (Factor 4). The emphasis on Factors 1 and 3 for the MMT groups lay in positive self-talk; and goal disengagement and self-reassurance, respectively. This result may link with the low levels of Intimacy and Community reported by the MMT groups.

Examination of the findings of this study in the seven domains of ComQol may offer some tentative theoretical basis for future research on the types of secondary control mechanisms used by the MMT groups. For example, the domain of Intimacy was ranked very low for the MMT groups in comparison with that of controls, as was place in Community. Intimate relationships with others are necessarily linked with the perception of vicarious control (Rothbaum et al., 1982). This powerful mechanism allows an individual to find material advantage and self-reinforcement through alliance with powerful others (Rothbaum et al., 1982). It may also be consistent with Cummins (1998) theory that a homeostatic mechanism regulating levels of SWB is linked to prevention from depression and social advantages in the form of increased social alliances.

In a study of vicarious control in the case of chronic illness, Hegelson (1992) found positive relations between perceived vicarious control and adjustment for individuals undergoing surgical intervention. However, a negative relationship was reported between perceived vicarious control and adjustment amongst AIDS patients. There is a conceptual link between these findings and those of the MMT groups. These individuals belong to marginalised sectors of society. Their membership of this group differs from that of other groups in that as Krivanek (1988) argued, societal norms which deem one type of behaviour to be illegal immediately create a sub-group which is only bound together by the criminality of their actions.

Other secondary control mechanisms, which may demonstrate differences between groups, include interpretive control, which refers to the search for meaning and understanding in the face of an unfavourable event. This process appears to be linked with the individual's past experience. Those on MMT programmes, as

members of a chronically ill, marginalised and ostracised group may have few past successes to remember. In the light of past research (e.g. Charlton & Thompson, 1998; Shapiro, Schwartz & Astin, 1996), investigation of the usefulness of such secondary control mechanisms as illusory control and avoidance coping may provide useful insight for new treatment strategies. Given the strong predictive relationship between primary control, secondary control, self-esteem and SWB revealed in this study, the issue of appropriate control mechanisms for a marginalised group such as those on MMT programmes requires future research.

#### ***4.5 Comments on these findings***

The individual on a MMT programme faces the twin constraints of knowledge that they are addicted to opiates; and the necessity of conforming to the constraints of the programme. The paradox faced by individuals addicted to illegal opiates is that in order to take control over their lives, they must, to a large extent, give up control.

For individuals on ST programmes, primary control was a predictor of SWB. However, secondary control was not a predictor of SWB for this group, and their level of SWB was extremely low. As secondary control is theorised to act as a back-up to primary control (Heckhausen & Schulz, 1995) this finding may be linked with the ST group's use of avoidance strategies and illusory secondary control mechanisms. These strategies may enhance confidence over the short-term, but over the long term, decrease the individual's sense of confidence and self-worth. If these individuals remain on the programme, they may see a recurrence or continuation of their situation as a personal failure (Shapiro, Schwartz & Astin, 1996). In the case of opiate addiction, setting abstinence or withdrawal as a goal, or expecting that one's personal problems will be solved through the MMT programme alone may preclude individuals from greater self-acceptance.

#### ***4.6 The relevance of this study to current issues relating to MMT***

##### ***4.6.1 Daily pick-up of medication, inability to travel freely, cost***

For the LT group the constraints of daily medication pick-up, inability to travel freely, and cost, continue to impinge upon the individual's personal liberty. The granting of take-home doses is usually contingent on compliance with scheduled

clinic visits and counselling sessions and with drug-free urinalyses (Rhodes & Grossman, 1997). Several studies designed to remove rehabilitated patients (who have demonstrated long-term compliance with clinic requirements) from traditional daily clinic contact to "medical maintenance" have revealed that the rehabilitated patients generally maintained their success. This is defined as one physician's visit per month in the physician's office, one urinalysis at the time of visit and a 28-day take-home supply of methadone (Rhodes & Grossman, 1997; White et al, 1996).

Alternative pharmacotherapies to methadone such as heroin maintenance (Liversidge, 1996), the current Victorian trials of levomethadyl (LAAM), buprenorphine and maintenance doses of naltrexone (DCPC Report, 1997) are expected to address some of the issues arising from MMT. Of particular interest is that neither buprenorphine nor LAAM require daily collection of dose thereby enabling the individual more freedom of movement. Although heroin maintenance is suggested by some theorists as a preferred option to MMT (e.g. Liversidge, 1996), the short half-life of heroin means that the individual would spend most of their day at the clinic. Besides, research (e.g. Perneger et al., 1998) has shown that MMT is preferred over heroin maintenance by most workers in the field and most people seeking treatment.

As opiate addiction is a chronic medical condition, the requirement that individuals bear the majority of the cost of their prescribed treatment (Lintzeris et al., 1996) is both contradictory to the current philosophy regarding health care in Australia, and sends a clear message to those undergoing treatment that they represent a special case. This anomaly was not lost on the MMT groups interviewed, many of whom commented on the unfairness of this system. Moreover, whilst a large proportion of this group were unemployed and of low socioeconomic status, payment for MMT represents a large portion of their income. Learning theory (McKnight & Sutton, 1994) and behavioural theory (Pervin, 1993) indicate that these groups are not being sufficiently positively reinforced for their behaviours. Given the above concerns, the perception of primary control in this situation may indeed be counter-productive, and the availability of secondary control very limited.

#### ***4.7 Issues of control***

An important finding in this study was that primary control, secondary control and self-esteem were significant predictors of SWB for the control group. The concept of self is a critical consideration in analysing this process. The individual is not a lone, autonomous being who may be classed as successful if they exercise primary control and direct action on their environment, and a failure if they do not. Rather, this study has demonstrated how closely the individual is bound with their environment.

For those on MMT programmes, low levels of intimacy with family and friends and an inability to associate with a group in a positive manner lessens the likelihood of the individual's utilisation of useful secondary control strategies. Further study of the relationship between the individual on MMT and their families may suggest strategies for improving and cementing these relationships.

#### ***4.8 Limitations of this study and future research***

An important limitation of this study was the delineation of individuals who had been on a MMT programme for six months or more as representing the LT group. These people may not have been on the programme for long enough to fully utilise MMT. It was decided to use six months or more continuously on the programme as the criterion for inclusion in the LT group due to time constraints, the difficulty of accessing this group (Mattick & Hall, 1994) and the relatively small size of the sample. It is possible that if the LT group were composed of individuals on programmes for two years or more continuously, the LT results would have reached significance. Further long-term studies of this group need to be undertaken.

Whether or not individuals participating in MMT have a greater than average chance of suffering a pre-existing psychiatric or personality disorder, which may have affected the results of this study, is as yet unclear. In a study of Anti-social Personality Disorder (ASPD) and response to MMT, Darke et al. (1996) found that of their sample of 183 current MMT patients, 39 percent met the DSM-III-R criteria for a diagnosis of ASPD. Whether the existence of a psychiatric disorder affects the use of primary and secondary control in relationship to SWB is an area worth exploring.

Further, whether those on MMT programmes reveal levels of psychiatric impairment greater than the normal population would also be of interest.

A comparison between the SWB, control mechanisms and self-esteem of individuals addicted to opiates who are not on any treatment programme, compared with those on MMT programmes, would provide further insight into the perspectives and needs of this group. This is an important area for future research.

#### ***4.8 Conclusions***

The individual on an MMT programme faces a Herculean task. Whilst freely choosing to conform to a government sanctioned treatment programme, individuals are at once faced with the task of rebuilding their lives in accordance with socially sanctioned norms. In utilising primary control mechanisms to initiate their treatment procedure, at the same time individuals give up certain liberties which, in a democratic society, are assumed to rightfully belong to all citizens: the right to privacy in medical treatment; the right to medical benefits in their purchase of prescribed medication and the right of freedom to travel. These rights are not returned to individuals on MMT programmes even after years of compliance with programme requirements. This study has demonstrated that people on MMT programmes have reduced access to adaptive and productive secondary control mechanisms. For most people, the availability of these mechanisms appears to stem from experience; with individuals perceiving themselves as useful and meaningful members of societal group, and as having intimate links with others. These beliefs are a part of their personal history, and for the majority of the population, foster the illusion of control, based on the belief that the world is indeed a positive place and that unfavourable events which occur may have positive meaning and advantage. The individual on MMT is a member of a chronically ill, marginalised group. Their personal history; and their perception of themselves as societal outcasts; strongly influence their perception of personal control. The situation of people on MMT programmes emphasises the inter-relationship of the individual and their political and social environment. From the perspective of the individual on MMT, the balance between utilitarianism and individual liberty is heavily slanted in favour of utilitarianism. It has been difficult enough for individuals on MMT to survive. It is a wonder that society makes it so difficult for them to perceive that they have succeeded.

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**APPENDIX A**

Assessment instrument containing:

Control Group Demographic Data

MMT Groups Demographic Data

Comprehensive Quality of Life Scale-A5 (Subjective) (Cummins, 1997)

Cognitive Behavioural Control Questionnaire (Heeps, 1998)

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Thank you for your participation in this study. The research being conducted involves a study of quality of life, self-esteem, and the way people think about problems that come up.

Your responses will be strictly anonymous and confidential. You are not required to fill in a consent form, as return of this questionnaire signifies consent.

Thank you again for your participation in this study.

## SECTION 1: ABOUT YOU

Please tick the appropriate box.

1. Male      Female

2. Age: 16-20      21- 30      31-40      41 and over

3. Are you employed?

No

Casual

Part-time

Full-time

## SECTION 1: ABOUT YOU

Please tick the appropriate box.

1. Male  Female

2. Age: 16-20  21- 30  31-40  41 and over

3. Are you employed?

No

Casual

Part-time

Full-time

4. How long have you been on your current methadone programme?

6 months or less

7-11 months

12 months or more

5. Have you been on a methadone programme before and dropped out?

Yes

No

6. How long were you using before you went on your current methadone programme?

0-1year

2-5 years

6 years or more

4. What was your greatest frequency of use?

Twice a day or more

Daily

Few times a week

Weekly

5. What is your current methadone dose ?

0-30 ml

31-50 ml

51-80 ml

over 80 ml

6. Why did you decide to go on a methadone programme?

I decided for myself

I was pressured by someone else























**7. I feel that I'm a person of worth, at least on an equal plane with others.**

<b>Strongly agree</b>					<b>Mixed</b>						<b>Strongly disagree</b>
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**8. I wish that I could have more respect for myself.**

<b>Strongly agree</b>					<b>Mixed</b>						<b>Strongly disagree</b>
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**9. All in all, I am inclined to feel that I am a failure.**

<b>Strongly agree</b>					<b>Mixed</b>						<b>Strongly disagree</b>
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10. I take a positive attitude toward myself.**

<b>Strongly agree</b>					<b>Mixed</b>						<b>Strongly disagree</b>
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you for completing this questionnaire. Please hand the questionnaire back to the researcher, or post it back to the researcher in the envelope provided. Your assistance in this research will be invaluable.**

**APPENDIX B**

Ethics Approval

**DUEC Subcommittee - Health & Behavioural Sciences**  
**Faculty Of Health & Behavioural Sciences**  
**Geelong Campus, Geelong, Victoria 3217**  
Telephone 03 52 27 2884 Facsimile 03 5227 2499 email barnesj@deakin.edu.au



8<sup>TH</sup> July, 1998

Professor B Cummins  
School of Psychology  
Burwood

Dear Bob,

**DSCH46/98 The Subjective Quality of Life of Methadone Clients in Victoria**

---

I apologise for the delay in replying to Judith Cahill's resubmission. The application has been reviewed by the Chair and is now **recommended for approval**. The application is proceeding to the Deakin University Ethics Committee for ratification and, in the absence of any further advice, may commence.

Could Judith please add to the Plain Language Statement that her supervisor is in the "School of Psychology".

Good luck with the project !

Yours sincerely,

A handwritten signature in black ink, appearing to be 'R King'.

Jennifer Barnes for  
**Dr Ross King**  
**Chair**  
**DUEC Subcommittee - Health & Behavioural Sciences**

c.c. «Student\_Name», «Street», «Suburb» «Postcode»

**APPENDIX C**

Plain Language Statement

**DEAKIN UNIVERSITY  
SCHOOL OF PSYCHOLOGY**

Student: Judith Cahill

Supervisor: Professor R.A. Cummins  
Faculty of Health and Behavioural Sciences  
Contact telephone number: 9244 6023

Project Title: Life Experience and Life Quality

**My name is Judith Cahill and I am studying Honours in Psychology at Deakin University. As part of my degree, I am doing a research project on the subjective quality of life of people who are on methadone treatment programmes. I am inviting you to take part in this project.**

**“Subjective quality of life” really means how satisfied you are with your life. It doesn’t mean how many things you own or whether you have a job or not. Sometimes people who are rich and famous are not satisfied with their lives. What I am really interested in is whether being on a methadone programme has helped you to feel better about your life than before, or not. I am also interested in whether the way you think about things has changed.**

**I think it is time people learned more about what it is like to be on a methadone programme. This information will then help the people who provide methadone programmes to better understand your needs.**

**I will ask you to fill out a questionnaire. It should take about 15 minutes. There are no right or wrong answers, and if you don’t understand a question I will help you. Here are two examples from the questionnaire:**

**“When faced with a difficult problem, I look for something good or positive in what is happening”.**

**“I take a positive attitude towards myself”.**

**It is up to you whether or not you participate in this study. You may withdraw from the study at any time and this will not affect further treatment.**

**I will not take your name and any information you give me will be completely confidential. My final report will be a general analysis of all the statistics I gather – individual answers will not be able to be identified.**

**I will send a copy of the final report to the prescribing doctors so that you can read it if you like.**

**As a small gesture of appreciation for your time Deakin University has made \$5.00 Scratchie tickets available for people who participate.**

**I hope you decide to participate in this study. More people need to know what it is really like to be on a methadone programme.**

**DEAKIN UNIVERSITY  
SCHOOL OF PSYCHOLOGY**

Student: Judith Cahill

Supervisor: Professor R.A. Cummins  
Faculty of Health and Behavioural Sciences  
Contact telephone number: 9244 6023

**Project Title: Life Experience and Life Quality**

**My name is Judith Cahill and I am studying Honours in Psychology at Deakin University. As part of my degree, I am doing a research project on the subjective quality of life of people who are on methadone treatment programmes. I am inviting you to take part in this project as a member of a comparative group who is not on a methadone programme.**

**“Subjective quality of life” really means how satisfied you are with your life. It doesn’t mean how many things you own or whether you have a job or not. Sometimes people who are rich and famous are not satisfied with their lives. What I am really interested in is whether being on a methadone programme has helped people to feel better about their lives than before, or not.**

**I will ask you to fill out a questionnaire. It should take about 15 minutes. There are no right or wrong answers, and if you don’t understand a question I will help you. Here are two examples from the questionnaire:**

**“When faced with a difficult problem, I look for something good or positive in what is happening”.**

**“I take a positive attitude towards myself”.**

**It is up to you whether or not you participate in this study. If you decide to participate you are free to withdraw from the study at any time.**

**You will be completely anonymous. Any information you give me will be confidential. My final report will be a general analysis of all the statistics I gather – individual answers not be able to be identified. If you would like a copy of my final report I will provide one for you.**

**I hope that you decide to participate in this research project. It may help the people who provide methadone programmes to understand the needs of their clients better.**

**APPENDIX D***Secondary Control Questions*

- Q1 When facing a difficult problem I remind myself that I might fail so that if I do I won't be disappointed (Predictive SC)
- Q3 When struggling with a problem I think of the past successes of my family and friends (Vicarious SC)
- Q5 When up against a difficult problem I think to myself things will be OK because I can rely on my family and friends for emotional support (Vicarious SC)
- Q7 when facing a difficult problem I do something I find pleasurable or enjoyable to take my mind off things (Personal gift SC)
- Q9 When things don't go my way I think to myself you can't always get what you want in life (Interpretive SC)
- Q11 When struggling with a problem I remind myself that things will change (Illusory SC)
- Q13 When faced with a difficult problem I look for something good or positive in what is happening (Interpretive SC)
- Q15 When I do not reach a goal I can see that it was not all my fault (Intra-individual comparison SC)
- Q16 When I face a very difficult problem I avoid thinking about it (Avoidance SC)
- Q17 When I get into a difficult situation I remind myself that in many ways I am better off than many other people (Personal gift SC)
- Q18 When I doubt myself I keep in mind that I have already accomplished a lot in my life (Intra-individual comparison SC)
- Q19 When facing a stressful problem I say to myself don't worry things will work out (Illusory SC)
- Q20 When it turns out that I cannot reach a goal in any way I let go of it (Goal disengagement SC)
- Q21 When I have failed to achieve something important I think about other aspects of life where I have had more success (Intra-individual SC)
- Q22 When facing a tough problem I do some physical exercise or meditation (Behavioural SC)



**APPENDIX E***ST and LT Group Factors**Factor 1*

- Q4 When something really matters to me, I invest as much time as I can on it.
- Q11 When struggling with a problem, I remind myself that things will change (eg. "I will not feel bad forever").
- Q13 When faced with a difficult problem I look for something good or positive in hat is happening.
- Q18 When I doubt myself, I keep in mind that I have already accomplished a lot in my life.
- Q19 When facing a stressful problem I say to myself "Don't worry, things will work out".
- Q21 When I have failed to achieve something important I think about other aspects of life where I have had more success.

*Factor 2*

- Q6 When I have set a task for myself I try to learn the skills necessary to do it well.
- Q8 When something gets in the way of a goal I try to work out how to remove it.
- Q9 When things don't go my way I think to myself "You can't always get what you want in life".
- Q10 When I cannot solve a problem by myself I ask others for help or advice on what to do about the problem.
- Q12 When I find a goal that is difficult to achieve, I look for new ways to reach my goal.
- Q14 When I want someone to do something for me I make efforts to have it happen.

*Factor 3*

- Q1 When facing a difficult problem I remind myself that I might fail so that if I do I won't be disappointed.
- Q3 When struggling with a problem I think of the past successes of my family and friends.
- Q17 When I get into a difficult situation I remind myself that in many ways I am better off than many other people.
- Q20 When it turns out that I cannot reach a goal in any way, I let go of it.

**APPENDIX F***Control Group: Factors**Factor 1*

Q12 When I find a goal that is difficult to achieve I look for new ways to reach my goal.

Q13 When faced with a difficult problem I look for something good or positive in what is happening.

Q14 When I want someone to do something for me I make efforts to have it happen.

Q17 When I get into a difficult situation I remind myself that in many ways I am better off than many other people.

Q18 When I doubt myself I keep in mind that I have already accomplished a lot in my life.

Q19 When facing a stressful problem I say to myself don't worry, things will work out.

Q21 When I have failed to achieve something important I think about other aspects of life where I have had more success.

*Factor 2*

Q2 When I really want something, I am able to work hard to achieve it.

Q4 When something really matters to me I invest as much time as I can on it.

Q6 When I have set a task for myself I try to learn the skills necessary to do it well.

Q8 When something gets in the way of a goal I work out how to remove it.

Q20 When it turns out that I cannot reach a goal in any way I let go of it. (Negatively correlated)

*Factor 3*

Q5 When up against a difficult problem, I think to myself things will be OK because I can rely on my family and friends for their emotional support.

Q9 When things don't go my way I think to myself "You can't always get what you want in life".

Q10 When I cannot solve a problem by myself I ask others for help or advice on what to do about the problem.

Q11 When struggling with a problem I remind myself that things will change.

*Factor 4*

Q3 When struggling with a problem I think of the past successes of my family and friends.

Q7 When facing a difficult problem I do something I find pleasurable or enjoyable to take my mind off things.

Q15 When I do not reach a goal I can see that it was not all my fault.