



Killing Time:

The effect of boredom during unstructured leisure time on men's health

By

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ABSTRACT

Mortality statistics routinely show that across all ages and for most causes of death men die earlier than women and unmarried men die earlier than married men. Unhealthy lifestyle behaviours such as tobacco and alcohol use and physical inactivity vary by sex, age, and marital status and other sociodemographic factors and are strongly linked to the major causes of death. In combination with biological, demographic, and socioeconomic risk factors for mortality, variations in unhealthy behaviours are necessary but not sufficient to explain the sex and marital status differences in mortality. Individual, age, and marital status variations in the objective and subjective aspects of Australian men's structured and unstructured free time use were examined using time-use methodology. The direct and indirect relationships between age, marital status, the objective and subjective aspects of men's unstructured free time use, the social contexts of alcohol consumption, problem drinking behaviours and men's higher risk of mortality were also investigated. These analyses were conducted within a gender-relations theoretical framework that emphasised the mediator roles of meaningful activity, loneliness, and interest, on boredom during men's unstructured free time, and the predictive power of boredom during free time in explaining individual, age, and marital status variations in unhealthy behaviours and mortality risk. One hundred and eighty-six men aged between 20 to 75 years, who resided in Melbourne, Australia, completed a prospective time-use diary detailing how they spent their time over two days. They also described why they did the activity, and they rated each activity in relation to its meaningfulness and how lonely and bored they felt. A set of questionnaires also measured men's quantity and frequency of alcohol and tobacco use and mental and physical health and physical symptomatology. Multivariate analyses of variance showed that men rated unstructured free time as less meaningful than structured paid and unpaid work activities. Structural equation modelling indicated that boredom during free time was directly and indirectly related to an increase in boredom and loneliness during structured time and a lack of meaningful activity, a reduction in interest, and an increase in loneliness during free time. Boredom during free time varied by marital status and age. Hierarchical multiple regression analyses showed that a lack of meaningful free time activity directly predicted an increase in passive leisure. Increases in loneliness during structured time and loneliness during free time were associated with spending more time in active leisure. Boredom during free time and loneliness during structured time directly predicted an increase in the frequency and volume of alcohol

consumption in a variety of social contexts and an increase in weekly episodes of intoxication. The relationships between alcohol consumption, loneliness, and boredom during free time varied by age, but not by marital status. Increased time spent in leisure activities also predicted an increase in heavy drinking patterns. A lack of meaningful activity and an increase in boredom during free time and an increase in loneliness during structured time significantly predicted an increased risk of mortality after known demographic, health, and behavioural risk factors for mortality had been adjusted for. The results indicated that the inability of the gendered division of labour to sustain meaningful and structured activity and to reduce or prevent loneliness during structured time and boredom during free time is highly involved in men's unhealthy behaviours and mortality risk. These data provide evidence to suggest that the observed sex difference in mortality may be related to the gendered division of labour independent of men's risk of mortality arising from sociodemographic, biological or behavioural factors. The findings also support the hypothesis that the observed association between marital status and longevity results from the positive influence that marriage has on reducing married men's loneliness and boredom during free time and increasing meaningful activity during free time. These aspects of the gendered division of labour and other factors not identified in the current research may be associated with the observed relationships between age, mental illness, and suicide. This evidence highlights the importance of adopting a gender-relations view of men's health and mortality. It has identified how the avoidance of housework produces excess free time for men, and the inability to structure that time with goal directed and meaningful projects may be more important to their morbidity and mortality than the risk factors traditionally believed to be the more proximal causes of premature death.

STATEMENT OF AUTHORSHIP

‘With the exception of where reference of acknowledgement is made in the main text, this thesis contains no material extracted from any published or unpublished work.

This thesis has not been submitted for the award of any other degree or diploma at any other tertiary institution.’



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STOP KILLING YOUR HUSBAND!

Why do husbands so often die early?

By Louis I. Dublin (1952)

In 40 years as the statistician of a large life-insurance company, I have come to the conclusion that many men who die before their time could have been saved if their wives had taken more seriously a wife's responsibility to watch over her man.

Life-insurance statistics are proof of the axiom: The shorter the waistline, the longer the lifetime. The effort to maintain a fashionable silhouette keeps women watching their weight and diet. The result has aided their health as well as their appearance. Unfortunately, fashion has failed to have a similar effect on men. And the little woman, taking pride in providing her husband with luscious pies, cakes and hot breads, goes on contributing to his overweight.

Excessive weight goes hand in hand with many diseases, especially heart and circulatory disorders: high blood pressure, hardening of the arteries, coronary disease. Overweight persons are prone to chronic diseases of the kidneys, liver and gall bladder; diabetes; arthritis; hernia.

Obesity is not inherited. Not fat but the habit of over-eating runs in families. Where all members of a family are overweight, all usually are eating more than they can use, and generally of the sweet or starchy foods.

The typical husband tends to put on weight as he grows older because he needs less food and often eats more. With the years his metabolism rate slows; his body does not require as much fuel, chiefly because he is less active physically. If he tends to become overweight there should be a *permanent* change in his dietary habits. The wife might start dinner with an appetite-cheating, low-calorie, vitamin-rich salad, and try to win her husband away from cream pie to a simple dessert of fruit. She can also stop keeping snacks in the icebox and throw away the biscuit tin.

Frequently, obesity is indirectly caused by a state of mind. "People often take to eating," points out Cornell University's Dr. Harry Gold, "when they are unhappy, or for release from depression or tension." (Some, for similar reasons, take to drink, which also adds calories). The wife of a man who overeats because he is tense should help him relax. If she feeds his emotional hunger with love and admiration, he may be more willing to relinquish the dollop of cream on his dessert.

High food prices have caused an increased intake of carbohydrates in bread, potatoes, noodles and pastries – all taboo in reducing diets, most of which call for steaks and fat-free chops. I suggest, alternatively, eggs, cheese or fish. The average portion of seafood has fewer calories than the average portion of meat; it is a fine protein that equally satisfies hunger.

A man who has taken ten years accumulating 20 or more extra pounds cannot lose them in ten days. Not only must his way of life be changed but a new way of thinking developed – by the wife as well as the husband.

Between 70 and 80 percent more men than women die in their early 50's, usually from some form of heart or circulatory disease, to which years of too much strain, too much food and too little rest have contributed. Typical is the following true story (the names are fictitious):

John Edwards, 35, is a brilliant executive with a big future – if he lives. He leaves the house daily at 7:30, returns about seven, and puts in another hour or two at office work he has brought home with him. His wife, Jane, is ambitious for him. A little while ago she proudly told an observant friend of the family that John had been offered a better job – a wonderful opportunity for a young man.

“Shorter hours, less strain?” asked the friend.

“No, but more money”, Jane said.

“This is suicide or murder”, said the friend bluntly. He pointed out the result of cumulative strain, bad eating habits and violent week-end exercise, all of which characterized John's way of life.

“At least,” he advised, “don't let him take this new job until he's had a checkup.”

Jane agreed, fortunately. The doctor found early signs of wear and tear, including heightened blood pressure. He advised John to slow down, and gave him a diet which eliminated many of the rich foods that Jane, in wifely solicitude, prepared.

Many wives feel that it is part of their responsibility to encourage their men to keep up with the Joneses. But a man will probably live longer if his wife encourages a spirit of contentment with modest achievement, and creates an atmosphere of peace and enjoyment of simple pleasures.

Statistics show an excessive accident mortality among fat men – possibly because they are not spry, or because of other physical impairments which go with overweight. Recently, I ran across the case of a man in his 40's who was killed by a fall from the roof he was mending. To save money, his wife had permitted him to endanger himself.

Accidents, like many diseases, are sometimes due to emotional tensions. A man constantly frustrated, harried, becomes accident prone. Anger may readily cause him to become a danger on the highway. Or it may seethe inside him until he becomes a hazard at his job and gets in the way of machinery. These risks may be averted by an understanding wife.

What, then, should a wife do in order to keep her man sound, healthy and alive?

Watch his weight as carefully as she does her own, and patiently reform his eating habits if these are causing overweight. Insist on an annual medical checkup. If indications of a disorder are discovered, help him follow all his doctor's instructions. Encourage him to be happy in his work and to preserve reasonable ambition without grueling overdrive. See to it that his home is one of security, rest and quiet happiness. Help him to be relaxed. It's nice to have a man about the house. Keep him there.

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SECTION 1: INTRODUCTION

CHAPTER 1

MEN'S HEALTH AND MORTALITY

1.1. Methodological issues

1.1.1 Definition of health

The concept of 'health' is very difficult to define and measure. The World Health Organization (WHO, 1946) defined 'health' as a state of complete mental, physical, and social well-being, not simply the absence of disease. This broad definition removes the focus from diagnosed biological illnesses to the quality of people's lives in a broad social context (Australian Institute of Health and Welfare (AIHW), 2002a). It helps to convey the notion that disease and health coexist on a continuum (Ross, Mirowsky, & Goldsteen, 1990). At one extreme, people may feel totally energetic and happy, healthy, hopeful, and full of life, and never have a sick day. At the other end, people may be totally incapacitated, feel sick, tired, and have no energy. Illnesses may range from short-term ailments such as colds and influenza, minor mood disturbances, to chronic pain conditions and terminal diseases (Ross et al., 1990). People with a disease or disability may perceive themselves to be in good health, and people with relatively minor health complaints may perceive themselves to be in poor health. Thus, it may be more accurate to describe health and illness as two separate constructs that may be present to differing extents, with two major dimensions – physical health and illness and mental health and illness (AIHW, 2000; Trewin, 2001). The WHO definition of health has been criticised for its idealisation, although it is best to describe it as an aim as much as a conceptualisation (AIHW, 2000).

The concept 'wellness' may more accurately reflect the multidimensionality of health. The Alberta Centre for Well Being (1989) defined well-being or optimal health as:

...a delicate balance among physical, emotional, spiritual, intellectual and social health. Physical health may be thought of in terms of fitness, nutrition, control of substance abuse, medical self-help, and so on. Emotional health

may refer to such areas as stress management and care for emotional crises. Examples of spiritual health are those themes dealing with love, charity, purpose and meditation. Intellectual health encompasses topics in the realms of education, achievement, career development, and others, while subjects concerned with social health may include relationships among friends, families and communities.

The term 'high-level wellness' was first introduced by Dunn in 1961 (cited in Godbey, 2003) to convey the notion that health was more than the absence of disease. Travis and Ryan (1988) subsequently expanded this concept and developed a model whereby health and disease were both present at each end of a continuum. According to this model, wellness increases as awareness, education, and intellectual, spiritual, and social growth increases. Unlike the WHO definition of health, the term 'wellness' supports personal responsibility in achieving high-level wellness and considers that health initiated in one domain will influence health promoting behaviour in other domains.

1.1.2 The measurement of physical health

Most health measures are indicators of illness or death, such as statistical data on mortality, physician visits, hospital admissions, and disease incidence and prevalence (AIHW, 2000; 2002a; Valanis, 1999). Mortality is much easier to define and measure than health. Mortality rates refer to the number of deaths in a community or population based on the causes of death listed on death certificates (Valanis, 1999). Law in most developed countries requires the registration of all deaths. In Australia, the Registry of Births, Deaths, and Marriages coordinates data in relation to deaths. Causes of death are classified according to the Tenth Revision of the International Classification of Diseases (ICD-10), produced by the WHO (1989a). This international classification system enables easy comparisons of mortality data between countries. The cause of death is defined as the disease that initiated the chain of events that led directly to death (AIHW, 2000). The accuracy of information varies between countries, but there is widespread agreement that mortality data are adequate indicators of causes and rates of deaths (de Looper & Bhatia, 1998). However, death is the ultimate endpoint. The monitoring of health, illness, and disease is fundamental to the development of effective strategies to improve the health of a nation. In Australia, physician, hospital,

and disease data are routinely collected and reported by the Australian Bureau of Statistics (ABS), or by disease registries such as the National Cancer Statistics Clearing House and the National Diabetes Register, both operated by the AIHW. National data are reported annually to the WHO and the United Nations. These data are then complemented by other national and international data and comparisons may be made. However, given the differing conceptualisations, measures, and analyses of morbidity data between countries, systematic international comparisons are problematic (de Looper & Bhatia, 1998).

When national data are not available, special population surveys may be conducted by agencies, such as the ABS, to provide a continual source of information about the health status and needs of the community (AIHW, 2000). Defining physical health is problematic, and therefore, it is difficult to measure. The challenge for health researchers is to measure the concepts included in the WHO definition with instruments that are valid, reliable, and easy to administer (AIHW, 2002a; Shields & Shooshtari, 2001). Population surveys usually assess health via self-report measures. The instruments can provide either unidimensional or multidimensional measures of health. Unidimensional measures require people to rate their health along a four or five-point Likert-type scale ranging from Poor to Very Good or Excellent. Subjective unidimensional judgements of health are believed to capture a person's overall state of well-being, including any physical, emotional, and social aspects, and not merely the absence or presence of disease. Multidimensional measures of health include scales or questionnaires that have been shown to produce valid and reliable measures of the construct under investigation. Health constructs and measures vary with the interest of the researcher, and can include self-reports of occurrences and severity of physical symptoms, general feelings of being tired or run-down, the presence or absence of disease, number of sick days, and self-assessments of level of physical functioning (Ross et al., 1990). Such scales are usually designed to capture the physical aspects of health and illness. Responses are assigned an arbitrary score and are summed to provide a composite score as a quantitative measure of a person's health status.

Self-assessed health is a valid and reliable measure of physical well-being (Davies & Ware, 1981; Mossey & Shapiro, 1982). Self-reported health correlates highly with objective health measures, such as physicians' ratings, and morbidity and mortality data, and is a very powerful predictor of mortality (Idler & Kasl, 1991; Kaplan, 1987; Kaplan & Camacho,

1983; Mossey & Shapiro, 1982). Indeed, subjective assessments of health status are stronger predictors of mortality than physicians' assessments, and reflect aspects relevant to longevity that are not measured by other instruments (Idler & Benyamini, 1997; Mackenbach, Simon, Looman, & Joung, 2002; Manor, Matthews, & Power, 2001; Mossey & Shapiro, 1982). This is especially true for measures that incorporate at least one question about overall or general health status (Fayers & Sprangers, 2002). Self-assessed health measures have high test-re-test reliability (Lundberg & Manderbacka, 1996), and unlike clinical assessments, they are not biased by gender, age, status, income, physical appearance, or social desirability (Eisenberg, 1979; Kaplan & Camacho, 1983; Mechanic, 1980; Mossey & Shapiro, 1982; Ross & Bird, 1994; Waitzkin, 1989; Waldron, 1983).

1.1.3 Definition of mental health

The term mental illness is applied to a range of psychological states, both normal and pathological, and impairment can occur to varying degrees. Generally, a mentally healthy person is in a state of good adjustment with a subjective sense of well-being, zest for living, with a feeling of effective functioning in society (Ross & Bird, 1994; Trewin, 2001).

The problems inherent in defining and measuring physical health can be extrapolated to the measurement of mental health. Currently, there is no integrated theory or clear definition of mental health and it is often conceptualised as the opposite of mental illness (Macklin, 1981). The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association (APA), 1994) defined mental disorder as:

A clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or disability or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom.

This definition has been widely criticised for its broadness and elasticity (APA, 1994; Livermore & Malmquist, 1991; Macklin, 1981), as has the appropriateness of defining mental health as the opposite of mental illness (Jahoda, 1958; Macklin, 1981).

The mental health of a population is inferred from epidemiological studies and national surveys that assess prevalence rates of mental disorder. The major classificatory systems – past and present versions of DSM (DSM-III, DSM –III-R and DSM-IV) (APA, 1980; 1987; 1994) and ICD-10 (WHO, 1989a) – have produced definitions of mental disorders that are largely based on the presence of a cluster of signs and symptoms. Diagnostic assessment is based on structured interviews conducted by a trained researcher or clinician using standard interview instruments such as the Diagnostic Interview Schedule (DIS) (Robins, Helzer, Croughan, & Ratcliff, 1981), the International Diagnostic Checklist for ICD-10 (WHO, 1989a), and the Structured Clinical Interview for DSM (Spitzer, Williams, & Gibbon, 1987). The structured interview instruments are valid and reliable methods for assessing symptoms of mental disorders (Martin, Kaczynski, Maisto, Bukstein, & Moss, 1995; Nelson & Wittchen, 1998; Robins et al., 1981; Spitzer, et al., 1987; Williams, Gibbon, First, Spitzer, Davies, Borus, Howes, Kane, Pope, Rounsaville, & Wittchen, 1992).

Major classification systems rely on discrete diagnostic categories. However, most people generally experience one or more psychological symptoms from time to time to varying degrees that do not warrant clinical diagnosis (Newmann, 1984). Many individuals with psychological symptoms may be deserving of clinical attention even if the symptomatology does not meet the diagnostic criteria for a full clinical syndrome (Klerman, 1987). Therefore, researchers have developed various self-report questionnaires to measure certain features of mental disorders. These may include constructs such as ‘psychological well-being’, ‘happiness’, ‘strain’ ‘personal efficacy’, ‘life satisfaction’ ‘self-esteem’, ‘stress’, ‘psychological distress’, ‘anxiety’, ‘depression’, and ‘sadness’ (Andrews & Robinson, 1991; Blascovich & Tomaka, 1991; Bryant & Veroff, 1984; Newmann, 1984; Shaver & Brennan, 1991; Snaith, 1993). Although these mental health measures may provide considerable knowledge in relation to the prevalence and distribution of psychological symptoms in normal populations, they are not diagnostic tools. Thus, they lack construct and discriminant validity as measures of mental disorders or clinical syndromes (Harder & Tufts, 1990; Myers & Winters, 2002; Snaith, 1993; Valentiner, Gutierrez, & Blacker, 2002).

1.1.5 Summary

Measuring the health of a population is important for the development of strategies, programs, and policies to improve the physical, social, and emotional quality of people's lives (AIHW, 2002a). Mortality may reflect the end product. Therefore, the best indicator of health may be one that specifies a general health concept that is strongly predictive of mortality (AIHW, 2002a). Self-reports of health-related quality of life are well established measures of the physical, emotional, and social dimensions of a person's health status (Fayers & Sprangers, 2002; McCallum & Anderson, 1997). Self-rated health is a valid and reliable indicator of subsequent mortality, and it has been recommended that health status should not be assessed without it (Fayers & Sprangers, 2002; Idler & Benyamini, 1997).

1.2 Men's health and mortality

1.2.1 Current state of men's physical and mental health

Health survey data indicate that men in developed countries enjoy good physical and mental health. For example, the proportion of men who rated their current physical health status as good, very good, or excellent was 80% in Australia and 90% in Canada (ABS, 1997a; Shields & Shooshtari, 2001). Ninety percent of residents in the United Kingdom rated their physical health as perfect, good, or fair (Wadsworth, Butterfield, & Blaney, 1971). Results from the Epidemiologic Catchment Area (ECA) study in America (Robins, Locke, & Regier, 1991) showed that 80% of men aged 18 years and over did not have a diagnosable mental disorder in the previous year.

However, data on physical symptomatology collected overseas and in Australia have shown that many men are not healthy at all times. During the 1995 Australian National Health Survey (ABS, 1997a), 65.7% of men reported a recent illness and 72.7% of men reported a long-term health condition. Ninety-five percent of English residents reported at least one illness condition in the previous 14 days (Wadsworth et al., 1971). Common recent illnesses for men included headaches, common cold and influenza, and skin disorders. Longer-term chronic conditions included back problems, deafness, hypertension, arthritis, hay fever, asthma, and high cholesterol levels. Although self-ratings of general health provide valid and

reliable measures of health status, the survey results demonstrate that measures of physical symptom reporting are essential to understanding the extent of health problems men face in their daily lives.

Findings from the National Comorbidity Survey in the United States showed that 28% of men had been diagnosed with a mental disorder in the previous year and 49.7% of men had a lifetime history of a psychiatric illness (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshleman, Wittchen, & Kendler, 1994). In Christchurch, New Zealand, 28% of men had been diagnosed with a mental disorder in the last six months. A large percentage of men (63%) reported a lifetime history of psychiatric disorder (Oakley-Browne, Joyce, Wells, Bushnell, & Hornblow, 1989; Wells, Bushnell, Hornblow, Joyce, & Oakley-Browne, 1989). Comparative data from Australia are limited. A small survey, conducted in a rural town in South Australia, found that 25.8% of Australian men had been diagnosed with a mental disorder in the previous six months (Clayer, McFarlane, Czechowicz, & Wright, 1991). In 1997, the ABS (1998) conducted the Australian National Survey of Mental Health and Wellbeing of Adults on a random sample of approximately 10,641 adults. Mental health was assessed using the ICD-10 (WHO, 1989a) diagnostic criteria. The results showed that 18% of men had been diagnosed with a mental disorder during the 12 months prior to the survey.

1.2.2 Sex differences in physical and mental health

Australian and overseas survey data have shown that across all age groups, relative to women, men rate their self-assessed physical health as slightly better and report fewer physical symptoms (ABS, 1991; 1997a; AIHW, 2000; Macintyre, 1986; Ware, Kosinski, & Keller, 1998). Men's ratings of self-assessed physical health status remain stable between the ages of 18 to 44 years, and then steadily decline with age (AIHW, 2000; Blaxter, 1987; Hunt & McEwan, 1980; Hunt, McKenna, McEwan, Williams, & Papp, 1981; Ware et al., 1998).

Morbidity patterns also vary by sex, but sex interacts with age. Men report more chronic conditions, whereas women report more acute conditions (ABS, 1991; Broom, 1989; Montelpare & Kanters, 1994; Verbrugge, 1985; 1986; 1989; Verbrugge & Wingard, 1987; Waldron, 1982; Wingard, 1984). Men aged between 15 to 24 years are at the greatest risk of sustaining an injury (ABS, 1991). After the age of 45 years, the incidence of chronic

conditions appears to accurately reflect changes in men's self-assessed health status. In comparison to women, men report higher rates of gout and diabetes, stroke and respiratory conditions, and a greater number of injuries during middle age (ABS, 1991; AIHW, 1999a). Between the ages of 35 to 69 years, non-fatal heart attacks are three times more common among men than women, and after age 55 years, men have a higher rate of cancer than women (AIHW, 2000).

There are sex and age differences in patterns of psychiatric diagnoses. Prevalence rates of alcohol abuse, alcohol dependence, and antisocial personality disorder are higher for men. Women report higher rates of depression, obsessive-compulsive disorder, somatisation, anxiety, and eating disorders (ABS, 1998; Clayer et al., 1991; Kessler et al., 1994; Najman, 1996; Oakley-Browne et al., 1989; Robins et al., 1991; Ross, 1995; Wells et al., 1989). Men aged between 18 to 29 years have the highest prevalence of mental disorder. Prevalence rates of mental disorder decline steadily with age for both sexes, but the male-to-female ratio increases with age (e.g. the male to female ratio in the 18-29 years of age group was 2.2, increasing to 4.4 in the over 65 years age group) (Grant, Harford, Dawson, Chou, Dufour, & Pickering, 1994). Men are more likely than women to have anxiety and affective disorders in combination with alcohol-related disorders (ABS, 1998; Brown & Harris, 1978; Mirowsky & Ross, 1989; Najman, 1996). Depression is the greatest risk factor for alcohol use disorders among women, whereas depression is the greater risk factor for subsequent increased drinking among men with alcohol use disorders (Zilberman, Tavares, Blume, & el-Guebaly, 2003). Thus, depression may predate alcohol abuse among women, but it may be a consequence of alcohol use disorders among men.

1.2.3 Marital status differences in men's physical and mental health

Married men enjoy better health than unmarried men do. Compared with married men, divorced, separated, widowed, and single men report poorer self-rated physical health, greater psychological distress, a higher prevalence of disability, bronchitis, emphysema, insomnia, and nervous tension (Booth & Amato, 1991; Gerstel, Riessman, & Rosenfield, 1985; Joung, Stronks, van de Mheen, & Mackenbach, 1995; Joung, Stronks, van de Mheen, van Poppel, van der Meer, & Mackenbach, 1997; Mathers, 1994a; Riessman & Gerstel, 1985; Wyke & Ford, 1992)

National surveys show a relationship between being single, divorced, widowed, or separated and having a psychotic illness. Alcohol abuse and dependence account for the majority of all disorders reported by unmarried men (ABS, 1998; Jorm, 1996; Meltzer, Gill, Petticrew, & Hinds, 1995; Rodgers, 1996; Williams, Takeuchi, & Adair, 1992). However, the high rates of psychiatric diagnoses, and in particular, the higher rates of alcohol abuse and dependence for single men may be an age effect. In the Great Britain OPCS survey of psychiatric morbidity (Meltzer et al., 1995), 75% of single people surveyed were under the age of 29 years. Alcohol-related disorders in Australia, New Zealand, and the United States are more prevalent in young men aged between 18 to 24 years than other demographic groups (Kessler et al., 1994; Oakley-Browne et al., 1989; Robins et al., 1991).

1.2.4 Sex differences in mortality

In most developed countries, mortality rates for both men and women have steadily fallen over time and life expectancy has increased. Between 1900 to 2001, the average life expectancy in Australia rose from 55 years to 77 years for men, and from 58 years to 82.4 years for women (ABS, 1999a; AIHW; 2002a; Cannon, 1975; Trewin, 2003). Although both men and women are surviving to a later age, across all developed countries, mortality is higher for men than for women at all ages and for most causes of death (Davis & George, 1993). The largest sex difference has been demonstrated during young adulthood, and the smallest difference has been found among the elderly (Verbrugge, 1985; Wingard, 1984).

Across all age groups, more men than women die from injuries and drowning, accidental falls, poisoning, work accidents, burns and scalds, and firearm accidents. Men were also over-represented among deaths arising from motor vehicle accidents, either as a passenger or driver, from motorcycle and bicycle accidents, and as pedestrians (AIHW, 1996a; Jain, 1994). Relative to women, men were three times more likely to be killed in a motor vehicle accident and four times more likely to commit suicide (ABS, 1997b; Trewin, 2003). The risk of death from vehicle accidents and suicide is greatest for men aged between 15 to 34 years (Trewin, 2003). In Australia, New Zealand, Canada, and the United States, the suicide rate among males aged 15 to 24 years has trebled from 1960 to 1990 (de Loop & Bhatia, 1998).

Cancer is the leading cause of death among Australians (Trewin, 2003). In Australia in 1991, male cancer death rates were 68 per cent higher than female cancer death rates (Jain, 1994). The sex differential in cancer death rates is more pronounced before age 35 years and from age 50 years (AIHW, 2000). Twenty-four percent of male cancer deaths in 1996 were due to lung cancer, in comparison to female lung cancer rates, which accounted for 14% of total cancer deaths (ABS, 1997b). Other less frequently reported cancers, such as cancer of the liver, brain, and oesophagus are steadily on the rise among Australian men (ABS, 1997b). Ischaemic heart disease and stroke are the second and third leading causes of death in Australia (Trewin, 2003). In Australia in 2001, men were two times more likely than women to die from ischaemic heart disease. The sex differential was more marked for coronary heart disease, particularly in the age group of 25 to 64 years, where death rates for men were nearly four times those of women (AIHW, 2002a).

Male psychiatric morbidity may overestimate causes of death. A relationship between mental illness and mortality exists, although the effects are not understood. Depression and alcohol use disorders were common among suicide decedents (Kung, Pearson, & Liu, 2003; Murphy, 1998). Major depressive disorder is associated with greater mortality from all causes (Bruce & Leaf, 1989; Bruce, Leaf, Rozal, Florio, & Hoff, 1994; Jorm, Henderson, Kay, & Jacomb, 1991; Rabins, Harvis, & Koven, 1985), and the relationship is stronger for men than for women (Anonymous, 2003; Martin, Friedman, Tucker, Schwartz, Criqui, Wingard, & Tomlinson-Keasey, 1995). However, a recent review of the literature indicated that depression increased the risk of death by cardiovascular disease, especially in men, but depression was not associated with an increased risk of cancer mortality (Wulsin, Vaillant, & Wells, 1999). The effects of psychiatric morbidity on mortality cannot be explained by age or current physical health status, nor by the higher number of suicide among depressed patients (Bruce & Leaf, 1989; Murphy, Smith, Lindsay, & Slattery, 1988; Vythilingam, Chen, Bremner, Mazure, Maciejewski, & Nelson, 2003).

1.2.5 Marital status differences in male mortality

Married men live far longer than separated, divorced, widowed, and single men do (Hu & Goldman, 1990; Mathers, 1994a; 1994b; Rogers, 1995; Wyke & Ford, 1992). Some studies have found that separated and divorced men had the highest death rates (Hu & Goldman,

1990; Trovato & Lauris, 1989; Watson, 1995). Other researchers have reported higher mortality rates among single men (Ebrahim, Wannamethee, McCallum, Walker, & Shaper, 1995; Mathers, 1994a; Rogers, 1995). The inconsistencies may be due to erroneous marital status information recorded on death certificates (Kitagawa & Hauser, 1973). In some cases marital status is not stated on death certificates, and this may understate the mortality rates for some marital status categories, particularly for men. For example, marital status was not stated on the death certificates for 1,216 men compared with 169 women in Australia (Mathers, 1994a).

Marital status differences in morbidity and mortality risk may be confounded by the effect of social selection. Some authors have argued that the relationship often demonstrated between marital status and health results from the selection of healthy people into marriage, and the unhealthy ones out of relationships (Brown & Giesy, 1986). In a comprehensive review of the literature, Ross et al (1990) concluded, “although there may be some selection effect keeping or taking the unhealthy out of marriage, the protective effects of marriage on health probably account for more of the association” (p. 1062). Gove (1973) argued that marital status differences are not attributed to causes of death that are plausibly related to mate selection. Moreover, if selection were the explanation, then the same process would select both men and women. However, the relative risk of mortality for unmarried versus married people is, on average, 2.0 for men and 1.5 for women (Hu & Goldman, 1990; Mathers, 1994a). These data are often interpreted to mean that the benefits of marriage are greater for men than for women (Gove, 1973; Umberson, 1992). It has been suggested that to deal with any possible selection effects relating to biological health risk, morbidity and mortality studies must statistically adjust for original health status (Wingard, 1984).

Differences in socioeconomic status also confound the relationship between marital status and mortality. People with lower incomes have higher mortality risk than wealthier people (d’Espaignet, 1993; Joung et al., 1997; Link & Phelan, 1995; Ross et al., 1990). Married people are more financially secure than unmarried people (Rogers, 1995). Longitudinal data showed that divorce was associated with unemployment (Ebrahim et al., 1995), which, in turn, was associated with higher morbidity and mortality (Brenner, 1979; Bunn, 1979; Kessler, House, & Turner, 1987; Moser, Fox, & Jones, 1986; Ross & Bird, 1994; Ross & Mirowsky, 1995). Higher levels of education reduce morbidity risk and professional and

managerial groups have lower mortality rates than other occupational groups (Bray & George, 1984; Broom, 1984; Illsley & Mullen, 1985; Jacobsen & Thelle, 1988; McMichael & Hartshorne, 1982; Powles, 1979).

Parental status may also be a contributing factor to the health of unmarried men. Although the presence of children in the home has no effect on married men's health (see Ross et al., 1990 for a review), the number of children in the home is positively associated with symptoms of depression and anxiety for divorced men (Gerstel et al., 1985). Paradoxically, the absence of children following divorce negatively affects men's self-rated health, and increases the incidence of chronic illness (Mathers, 1994a).

CHAPTER 2

BEHAVIOURAL RISK FACTORS

2.1 Introductory comments

Major health problems and causes of death are related to a combination of human biology, the social and physical environment, and people's lifestyles. Powell (1988) estimated that of the ten leading causes of death, lifestyle accounted for 53%, followed by the environment (21.8%), and human biology (16.4%). The health care system accounted for a relatively small proportion of human disease and death (9.8%).

Epidemiological studies have consistently shown that cigarette smoking, alcohol consumption, and physical inactivity were unequivocally the major causes of chronic disease and mortality in developed countries. At the 1993 Australian Health Summit, four disease areas and associated behaviours were identified that either contributed positively to the maintenance of health or increased the risk of morbidity and mortality. Government Health Ministers targeted these four areas as the foci for the National Health Goals and Targets for Australia's Health in the year 2000 and beyond (ABS, 1995). The behaviours included cigarette smoking, alcohol use, physical activity, diet/nutrition, and safety behaviours. The AIHW (2000) in its report on Australia's Health 2000 summarised this view:

Although ill health was linked to industrial and urban living in the nineteenth century, the single-cause germ theory of disease came to dominate health sciences well into the twentieth century. However, in the twentieth century, the rise of chronic diseases, such as cardiovascular disease and several cancers, led to a wider 'multicausal' view. Research on populations showed the importance of 'lifestyle' factors such as diet, physical activity and cigarette smoking. Disease and health came to be seen as the result of the interaction of human biology, lifestyle and environmental factors, modified by health care (p.3).

2.2 Measurement issues

2.2.1 The measurement of alcohol consumption

The most commonly used measures of alcohol consumption are self-reports, usually obtained at one point in time (baseline measures), during population or epidemiological surveys. Information may be elicited in relation to current and lifetime drinking status (current drinkers, former drinkers, and lifetime abstainers). However, baseline measures of drinking status are crude indicators of exposure to, or protection from, risk over the lifespan (Smart, 1990). For example, youthful alcohol consumption is not a good predictor of adult consumption patterns, especially for men, as they tend to reduce their intake with increasing age (Fillmore & Midanik, 1984; Temple & Leino, 1989).

Another method requires respondents to state how often they usually drank alcohol and how much alcohol was consumed on a usual drinking occasion. These data are then computed to produce a summary measure of average volume of alcohol consumed. This method, originally developed by Straus and Bacon (1953), is termed the quantity-frequency (QF) measure. The third method is the alcohol diary, where alcohol consumption patterns are recorded over a given time period, usually ranging between one week and one month. Data collection may be retrospective or prospective and respondents recall the number of alcoholic beverages consumed on a daily basis. The number of beverages is then converted to a number of standard drinks to provide an estimate of total alcohol consumption for the given period.

The prospective diary method provides the most accurate information about alcohol consumption, with an estimated reliability of 90%. Alcohol consumption data obtained from the quantity-frequency format are approximately 60% of that obtained from the diary method (Lemmens, Knibbe, & Tan, 1988; Poikolainen & Kärkkäinen, 1983; Redman, Sanson-Fisher, Wilkinson, Fahey, & Gibberd, 1987; Webb, Redman, Sanson-Fisher, & Gibberd, 1990). Despite the reliability of the diary method, under-reporting of alcohol consumption often occurs, particularly for heavy drinkers (Corti, Binns, Howat, Blaze-Temple, & Lo, 1990; Poikolainen, 1985). Lemmens, Tan, and Knibbe (1992) found that the incorrect number of drinking occasions is often reported rather than the incorrect volume of

alcohol consumed. More accurate consumption levels are reported where memory cues are offered to aid in the recall of drinking patterns, such as questions relating to drinking contexts (Dawson, 1998).

The specific-settings approach is a more valid and reliable alcohol consumption measure than the quantity-frequency or diary methods (Casswell, Zhang, & Wyllie, 1993; Single & Wortley, 1993; 1994), although it has not yet been adopted for epidemiological research. It is a retrospective measure that includes a series of questions about how often, over a given period of time, that a person attended a number of settings known to be associated with alcohol consumption (Clark, 1985). These settings include pubs, bars, and taverns, barbeques, other people's homes, concerts, quiet evenings at home, restaurants, and sporting events. The measure also includes questions about the usual frequency of alcohol consumption and the usual amount and type of beverage consumed in each setting. These data are combined to generate an estimate of total alcohol consumption by setting.

The WHO has set guidelines for the responsible or safe consumption of alcohol. These guidelines have been adopted by the Australian National Health and Medical Research Council (NHMRC, 1991; 2001). A responsible male drinker is defined as one who consumes less than 40 grams of alcohol per day and a responsible female drinker consumes less than 20 grams of alcohol per day. A standard drink is defined as eight to 10 grams of alcohol. Responsible drinking implies that amounts not in excess of four standard drinks per day for men and two standard drinks per day for women lead to an acceptable level of risk to the user.

Hazardous drinking relates to the consumption of between 40 to 60 grams of alcohol per day for men and between 20 to 40 grams of alcohol per day for women. The term harmful drinking relates to the consumption of more than 60 grams of alcohol per day (men) or 40 grams of alcohol per day (women). Despite the NHMRC's (1991) recommendations, at a national and international level, government and professional bodies do not agree on the guidelines for a safe level of drinking (ABS, 1991; Occupational Health and Safety Commission, 1992; Redman et al., 1987; Room, Bondy, & Ferris, 1995).

There is also disagreement about what determines a 'standard drink' and the percentage of alcohol contained in different alcoholic beverages (beer, wine, spirits) (Turner, 1990). Differences in standard drink measures have yielded large variations in prevalence rates and consumption patterns (Blaze-Temple, Binns, Radalj, & Phillips, 1988; McLennan 1997; Redman et al., 1987), thus any national or international comparisons of prevalence and alcohol related morbidity and mortality rates are problematic.

Notwithstanding the variability in definitions of harmful and hazardous alcohol consumption patterns, emerging evidence suggests that intoxication and binge drinking (defined as five or more standard alcoholic beverages on one occasion) may be more predictive of negative health outcomes than average total alcohol consumption. Perkins (1992) showed that a greater number of episodes of intoxication were significantly related to an increase in physical and social harm. The harmful consequences of intoxication included memory loss, damage to property, physical injury to others, impaired driving, fighting, offensive behaviour, poor academic performance, unintended sexual activity, damage to friendships and other relationships, and physical injury to self.

Room et al (1995) investigated the effects of frequency of binge drinking and average volume of daily alcohol consumption on self-reports of harm to friendships, social life, physical health, happiness, home life, work, and financial position. The results showed that the risk of harm increased significantly with an increase in daily alcohol consumption volume. However, the risk of harm was highest for people who reported binge drinking at least once a month in comparison to people who reported consuming five or more drinks less often or not at all. The risk of harm in all areas increased sharply with an increase in the number of binge drinking episodes in one month. Survey data from Australia (Stockwell, Bolt, Somerford, & Lang, 1992; Stockwell, Hawkes, Lang, & Rydon, 1996), the United States (Duncan, Donnelly, Nicholson, & White, 1999; Midanik, Tam, Greenfield, & Caetano, 1996), and Canada (Single & Wortley, 1993) all showed the importance of including measures of heavy drinking occasions. In all studies, reports of heaving drinking patterns, particularly binge drinking and episodes of intoxication were stronger predictors of alcohol related harm than level of consumption was.

Although the amount of alcohol consumed is not a diagnostic criterion for alcohol dependence or abuse (APA, 1994), the ECA study in the United States showed that exposure to alcohol and experience with heavy drinking was the major risk factor for alcohol abuse and dependence (Dawson & Archer, 1993). Lifetime prevalence rates of alcohol-related disorders increased from 15% among all drinkers to 49% of those that reported a history of drinking more than five standard drinks in one session at least once a week (Robins et al., 1991). These findings underscore the importance of including measures of high-risk drinking patterns in future alcohol epidemiological studies.

2.2.2 The measurement of tobacco use

Surveys and epidemiological studies use self-reports of current smoking status (former, current, non-smoker) or quantity-frequency measures of smoking to assess the prevalence of tobacco use and its impact on morbidity and mortality. Measures of tobacco use suffer similar reliability and validity problems as measures of alcohol consumption. Some studies have included former smokers in the non-smoking category, which may confound the relationship between smoking status and health (Kozlowski & Ferrence, 1990). For example, compared to non-smokers, former smokers report poorer self-rated health and more ill-health conditions (Castles, 1994) and some people misreport their current smoking status (Parker, Lasater, Windsor, Wilkins, Upegui, & Heimdal, 2002; Wingard, 1984).

Current smoking status and self-reports of tobacco use mask any changes in exposure to risk across the lifespan as well as variations within smokers. Tobacco use reduces with increasing age (Makkai, 1994; Makkai & McAllister, 1998) and smoking cessation reduces the risk of mortality from all causes (Hedblad, Ögren, Isacson, & Janzon, 1997; Paffenbarger, Kampert, Lee, Hyde, Leung, & Wing, 1994; Wannamethee, Shaper, Whincup, & Walker, 1995). Exposure to nicotine, tar, and carbon monoxide varies between smokers (Kozlowski & Ferrence, 1990). Smokers tend to underestimate the quantity of tobacco smoked (Boyd, Windsor, Perkins, & Lowe, 1998), and self-reports of tobacco use under-report sales data (Nicolaidis-Bouman, Wald, Forey, & Lee, 1993).

2.2.3 The measurement of physical activity

Almost all epidemiological and population surveys rely on self-reported data on leisure time physical activity or the participation in exercise or sport for recreation or fitness purposes. Baseline measures of physical activity are usually obtained via an activity checklist. Questions on the activity checklist aim to measure the average frequency and intensity of participation in a number of leisure time activities that were specified in the questionnaire by the researcher (Ås, 1978). For example, in the Australian National Health Surveys, physical activity was defined as “...physical exercise undertaken for recreation, sport or health/fitness purposes...” (ABS, 1995, p. 66). Respondents were asked whether, during the two weeks prior to the survey, they did any walking for sport, recreation or fitness; moderate exercise (apart from walking); and vigorous exercise. Four levels of physical activity are usually assessed: low; moderate; moderate to vigorous; and vigorous.

Physical activity for health benefits has a number of dimensions other than the frequency of and the intensity of participation. The duration of the physical activity must also be considered, and it can occur at any time during the day, and it may have purposes unrelated to recreation or fitness (i.e. riding a bicycle to work; walking the dog; playing sport with children) (AIHW, 2002a; Patterson, 2000; Sallis & Saelens, 2000). Although the protective effect of occupational activity on health has been assessed in a number of studies, the evidence is less consistent than it is for leisure time physical activity (Hedblad et al., 1997).

Quantity-frequency measures of physical activity are unreliable as people overestimate their frequency of participation (Sallis & Saelens, 2000). One validation study showed that participation in tennis matches was over-reported by more than 100% (Chase & Godbey, 1983). Furthermore, with an emphasis on physical activity, the assessment of sedentary behaviour during health surveys is rare (Sallis & Saelens, 2000). Current measures fail to capture information on all leisure time activities that are beneficial or detrimental to health, and the duration of activity or changes over time are not measured (Ås, 1978; Singleton, 1999). There is also large variability in the measures used and the types of activities assessed. Thus, comparing results across surveys is difficult (Sallis & Saelens, 2000).

2.2.4 Epidemiological research design issues

Causality or risk factors associated with health and mortality must rely on epidemiological evidence. Modern epidemiology is defined as “the study of the distribution of states of health and of the determinants of deviations from health in human populations” (Valanis, 1999, p. 7). Three basic research designs are commonly used in epidemiological studies: (1) cross-sectional; (2) case-control; and (3) cohort (Valanis, 1999). Cross-sectional or correlational studies show relationships between current rates of exposure to the hypothesised risk factors with current rates of a disease or ill-health condition. These types of studies simultaneously collect data from a selected population on measures of the disease or ill-health condition and the risk factors under study. As data are collected at one-point in time, any latent effects of diseases or variations in risk factors over time are not taken into account. Thus, it cannot be ascertained from cross-sectional data whether the risk factors occurred before the onset of the disease, or *vice versa*, or whether the two occurred together. For these reasons, all cross-sectional studies are limited in their ability to infer causality.

In case-control studies, a group of cases with the disease of interest are compared with a control group consisting of people without the disease. Information on past exposure to the hypothesised risk factors is then obtained from official records, questionnaires, or interviews. The exposure status of the diseased cases is then compared with the exposure status of the control cases and a relative risk or odds ratio statistic is calculated. The odds ratio statistic represents the odds in favour of having the disease in the presence of the hypothesised risk factors relative to the absence of the hypothesised risk factors (Valanis, 1999). A ratio of 1.0 indicates that the risk is equal for both groups. A ratio higher than 1.0 indicates a greater risk for the group exposed to the hypothesised risk factor (Valanis, 1999).

Cohort studies may be historical or prospective. Cohort studies examine people’s exposure to a hypothesised risk factor and disease outcome over time. Historical studies relate disease outcomes to information recorded independently at some earlier time and the disease and exposure history is reconstructed from those records. Prospective studies follow people into the future and their exposure to hypothesised risk factors and the incidence of the disease of interest is monitored. Where a significantly higher incidence of disease occurs among

individuals exposed to the risk relative to those who were not exposed to the risk, the relationship between the exposure and disease is said to be causal.

Causality can be inferred from cohort studies. For that reason, they are believed to be preferable to cross-sectional or case-control studies. However, cohort studies require large sample sizes, are time consuming, and expensive to conduct. They are also prone to sample loss and response inconsistencies over time (Valanis, 1999; Wingard, 1984). Although cohort studies do monitor people over a period of time, measures of exposure to risk are taken only at baseline or at infrequent intervals during the course of the study. These data are then used to predict mortality three to four decades later within a research framework that does not account for behavioural and health instability over the life-span (Kozlowski & Ferrence, 1990). Few epidemiological studies have systematically examined all factors known to predict morbidity and mortality (Macintyre, 1986) despite the fact that the relationships between some risk factors for mortality may be confounded by other variables (Wingard, 1984). All of these methodological problems must be considered when evaluating the evidence for the mortality risk associated with specific lifestyle behaviours and biological and social factors.

2.3 Alcohol consumption and morbidity and mortality

2.3.1 Regular consumption of alcohol

Regular consumption of alcohol is associated with an increased risk of death from cancer, cardiovascular disease and coronary heart disease, hypertension, liver disease, and cirrhosis of the liver (Anderson, Cremona, Paton, Turner, & Wallace, 1993; AIHW, 2000; Blot, 1992; English, Holman, Milne, Winter, Hulse, Codde, Bower, Corti, de Klerk, Knuiman, Kurinczuk, Lewin, & Ryan, 1995; Hillbom & Juvela, 1996; National Institute on Alcohol Abuse and Alcoholism, 1998). In 1992, an estimated 123,651 deaths in Australia were indirectly related to alcohol use, and an estimated 3,670 deaths were directly caused by the effects of alcohol consumption (English et al., 1995). Cancer was the most common alcohol related cause of death, accounting for 32% of all alcohol-related deaths (Department of Human Services and Health, 1994). Alcohol also contributes significantly to hospital admissions for alcohol dependence, road traffic and other accidents, strokes, and injuries

from falls (Department of Human Services and Health, 1994; d'Espaignet, 1993; Hall, 1996; Howat, Sleet, & Smith, 1991; Zador, 1991).

The relationship between alcohol consumption and self-assessed health is less clear. In a Canadian national survey, Kunz and Graham (1998) found no relationship between self-reports of health and average volume of alcohol consumption using the quantity-frequency method. Among Australians, a greater percentage of medium to high-risk drinkers in comparison to low risk drinkers and non-drinkers rated their health as fair/poor (ABS, 1992b; AIHW, 2002b). Therefore, in addition to self-reported harm, measures of high-risk alcohol consumption may explain a larger proportion of the variations in self-reported health, and subsequent mortality, than measures of average total alcohol consumption.

2.3.2 Nil to moderate alcohol consumption

There is a considerable body of evidence to suggest that low alcohol consumption reduces the risk of death from coronary heart disease (AIHW, 1996a; 2000). The association between alcohol intake and premature cardiovascular death has been shown to form a U-shaped curve (Anderson et al., 1993; Marmot, Rose, Shipley, & Thomas, 1981) or a J-shaped curve (Leino, Romelsjo, Shoemaker, Ager, Allebeck, Ferrer, Fillmore, Golding, Graves, & Kniep, 1998; Poikolainen, 1995; Shaper, 1990). More specifically, in comparison to light to moderate drinkers, non-drinkers and heavy drinkers had a higher risk of cardiovascular disease mortality. Mortality rates were lowest among men who consumed up to three alcoholic drinks per day (Boffetta & Garfinkel, 1990). Others have shown that the protective function of alcohol from heart disease is achieved at consumption levels of up to 10 grams of alcohol per day (Jackson, Scragg, & Beaglehole, 1991; Scragg, Stewart, Jackson, & Beaglehole, 1987).

In addition to the relationship between alcohol intake and cardiovascular disease, from a recent literature review, eight studies showed a J-shaped curve for mortality from all causes among men, and five studies showed similar results for women (Anderson et al., 1993). Even after controlling for prior risk or symptoms of cardiovascular disease, stroke, and cancer, evidence was still found for the inverse relationship between light to moderate drinking and mortality (de Labry, Glynn, Levenson, Hermos, LoCastro, & Vokonas, 1992;

Jackson et al., 1991; Klatsky, Armstrong, & Friedman, 1990; Rimm, Giovannucci, Willett, Colditz, Ascherio, Rosner, & Stampfer, 1991).

The evidence for a protective effect of moderate alcohol consumption on mortality is tenuous when other health behaviours that synergistically affect health are considered. Some studies included former drinkers who gave up drinking for adverse health reasons in the non-drinking category (Shaper, 1990; Wannamethee & Shaper, 1988). Former drinkers are more likely than current drinkers or lifetime abstainers to be older, depressed, unemployed, unmarried, and have lower socioeconomic status, all of which may inflate the mortality risk for non-drinkers (Fillmore, Golding, Graves, Kniep, Leino, Romelsjo, Shoemaker, Ager, Allebeck, & Ferrer, 1998; Wannamethee & Shaper, 1988). Obesity is more prevalent among abstainers than current drinkers (Stampfer, Colditz, Willett, Speizer, & Hennekens, 1988), and light drinkers are more likely than non-drinkers to exercise regularly (Camacho, Kaplan, & Cohen, 1987).

Tobacco use may confound the relationship between alcohol consumption and mortality, as smoking co-occurs with alcohol use, and often at the same time (Istvan & Matarazzo, 1984; Shiffman & Balabanis, 1995; Sobell, Sobell, Kozlowski, & Toneatto, 1990). Some studies that have included detailed smoking histories have found that tobacco use accounted for the relationship between non-drinking and higher mortality risk (Fillmore et al, 1998; Kozlowski & Ferrence, 1990; Shaper, Wannamethee, & Walker, 1988).

Survey data also indicate that the protective effect of moderate alcohol consumption may be overstated. Using data from the 1989 Canadian National Alcohol and Drug Survey, Room et al (1995) found a relationship between low and moderate alcohol consumption and negative health outcomes. The study investigated the relationship between alcohol consumption, using the more valid and reliable specific-settings measure, and self-reported harm in six life areas for 7,702 Canadian drinkers. People were required to report whether drinking had a harmful effect on their friendship or social life, physical health, outlook on life (happiness), home life or marriage, work, study or employment opportunities, and financial position. The results showed that people who reported drinking up to 2.5 drinks per week reported harm in all areas, and the harmful effects of alcohol increased in

frequency as volume of drinking increased. Even at this low level of alcohol consumption, nearly 8% of people reported experiencing health-related harm as a result of drinking.

2.4 Tobacco use and morbidity and mortality

Tobacco smoke has been independently linked to cardiovascular disease, coronary heart disease, cerebrovascular disease, chronic bronchitis, emphysema, as well as cancer of the lungs, head, neck and gastrointestinal tract (AIHW, 1996b; d'Espaignet, 1993; McLennan, 1997; Ravenholt, 1986). Australian statistics have shown that tobacco smoking was responsible for 85% of new cases of lung cancer annually (Department of Health and Family Services & AIHW, 1998). In Australia in 1996, 21% of all deaths from cancer and 13% of deaths from cardiovascular disease were attributed to tobacco smoking (AIHW, 1996b).

There is some suspicion in the literature that the relationship between tobacco use and increased mortality risk is spurious, and that cigarette smoking is just one of many other negative lifestyle habits that all confound the relationship between tobacco use and health. For example, in the Canadian Health Survey, after controlling for sex and age, there were no significant relationships between smoking status and a large number of health indicators (Statistics Canada, 1981). Others researchers have reported that in comparison to non-smokers, smokers are less likely to eat a well balanced diet, to play sport and wear a seat belt in cars, and are more likely to have high-risk sex, to sleep fewer hours each night, to drink in excess of four cups of coffee per day, and to use illicit drugs (Green & Harari, 1992; Jenks, 1991; Shoenborn & Benson, 1988; Wichelow, Golding, & Treasure, 1988). Tobacco use is associated with lower levels of activity and a sedentary lifestyle (Blair, Jacobs, & Powell, 1985; Department of the Environment, Sport and Territories, 1995; Faulkner, Bailey, & Mirwald, 1987; Hanson & Isacson, 1992; Lochen & Rasmussen, 1992; Osler, 1993). Current smokers are more likely than non-smokers and former smokers to consume alcohol, and cigarette smoking is most prevalent among heavy drinkers and former drinkers (ABS, 1992c; Eward, Wolfe, Moll, & Harburg, 1985; Green & Harari, 1992; Kozlowski & Ferrence, 1990; Marmot et al., 1981; Patten, Martin, & Owen, 1996; Shaper, 1990; van Assema, Pieterse, Kok, Eriksen, & de Vries, 1993). The risk of mortality from alcohol and tobacco use combined in a multiplicative fashion and showed a compounded increment in risk that could not be accounted for the independent effects of each (Blot, 1992; Patten et al., 1996;

Rehm, Fichter, & Elton, 1993). Experimental and clinical studies have shown that recovery from alcohol disorders led to a cessation in cigarette smoking, and continued alcohol use led to a relapse after smoking cessation (Brandon, Tiffany, & Baker, 1986; Shiffman, 1982; Sobell, Sobell, & Kozlowski, 1995). Tobacco smoke is believed to be the largest single preventable cause of illness and premature mortality (de Looper & Bhatia, 1998). However, as Jenks (1991) argued, “It would seem, then, that smoking is only part of a more general pattern of behavior that shortens one’s life expectancy” (p. 573).

2.5 Physical activity and morbidity and mortality

Survey data showed that engaging in physical activity for between 30 to 60 minutes per day is related to better mental and physical health, fewer symptoms of anxiety and depression, and improved mood (Castles, 1994; Hayes & Ross, 1986; Hull, 1990; Iso-Ahola, 1994; Pondé & Santana, 2000; Roberts, Lamb, Dench, & Brodie, 1989; Ross & Hayes, 1988; Stephens, 1988; Stewart, King, & Haskell, 1993; Thorlindsson, Vilhjalmsson, & Valgeirsson, 1990). Physical activity decreases body weight and fat, and reduces the incidence of heart disease, arthritis, hypertension, and rheumatism, and the risk of mortality from all causes (Bauman & Owen, 1999; Blair, Kampert, Kohl, Barlow, Macera, Paffenbarger, & Gibbons, 1996; Castles, 1994; Mensink, Ziese, & Kok, 1999; US Department of Health and Human Services, 1996).

Physical activity is also believed to mediate the relationship between stress and health (Caltabiano, 1995; Coleman & Iso-Ahola, 1993), but the evidence is mixed. Some researchers have reported that physical activity buffers the effect of stress on health only when stress is high (see Iso-Ahola, 1997 for a review; Pondé & Santana, 2000). Other studies found that physical activity improves physical health, but not mental health, irrespective of the level of stress (Zuzanek & Mannell, 1998; Zuzanek, Robinson, & Iwasaki, 1998) and Zuzanek et al (1998) reported that higher levels of exercise were associated with higher levels of stress.

Physical exercise may indirectly improve health by deterring alcohol consumption, although the data are inconsistent. Several early studies reported that alcohol consumption was highly involved in the participation of outdoor recreational activities (Purdue & Rainwater, 1984; Sessoms & Oakley, 1969; Simpura, 1985; Young & Kronus, 1977). Other surveys either

showed little or no effects of physical activity on alcohol use or an inverse relationship between the two variables (see Kunz, 1997 for a review). Data from larger and methodologically superior surveys, such as the 1990 US National Health Interview survey (Smothers & Bertolucci, 2001), revealed an inverted J-shaped curve for the association between physical activity and alcohol consumption, after controlling for sociodemographic, health, and behavioural variables. More specifically, heavy drinkers were significantly more likely than abstainers to be physically active and heavy drinkers were as active as moderate drinkers were.

The epidemiological literature suggests that physical activity may be superordinate to abstinence from alcohol and tobacco use in the relationship between behaviour and health and longevity, and may actually counteract any tobacco-induced health effects (Hedblad et al., 1997). Increased leisure time physical activity reduced the risk of death from cardiovascular disease, ischaemic heart disease, cancer, and all causes, even after controlling for age, socioeconomic status, tobacco and alcohol use, baseline health, and weight (Chave, Morris, Moss, & Semmence, 1978; Hein, Suadicani, & Gyntelberg, 1993; Morris, Everitt, Pollard, Chave, & Semmence, 1980; Paffenbarger, Hyde, Wing, & Hsieh, 1986; Shaper, Wannamethee, & Weatherall, 1991; Stewart et al., 1993; Wannamethee, Shaper, & Walker, 2001). Survey data showed that sports participation directly predicted favourable self-rated health even after controlling for alcohol and tobacco use and symptoms of depression and anxiety (Thorlindsson et al., 1990).

A corollary of physical inactivity is sedentary behaviour or passive leisure. National time-use surveys have shown that after sleeping and eating, watching television and videos are the most prevalent sedentary or passive leisure behaviours (ABS, 1992a; 1997c; Robinson & Godbey, 1999; Statistics New Zealand, 2001). Other common sedentary leisure activities include listening to music, reading, talking on the telephone, relaxing, and using the Internet. Reduced physical activity increases participation in sedentary activities (DuRant, Baranowski, Johnson, & Thompson, 1994; Salmon, Owen, Crawford, Bauman, & Sallis, 2003). Increased time spent in passive leisure activities is significantly associated with poorer self-rated health (Bird & Fremont, 1991). More time spent watching television is related to lower fitness levels and the increased likelihood of being overweight or obese (Cameron, Welborn, Zimmet, Dunstan, Owen, Salmon, Dalton, Jolley, & Shaw, 2003; Ching, Willett, Rimm,

Colditz, Gortmaker, & Stampfer, 1996; Salmon, Bauman, Crawford, Timperio, & Owen, 2000; Tucker, 1986; Tucker & Bagwell, 1991; Tucker & Friedman, 1989). Increased time spent watching television is associated with high levels of cholesterol and the increased risk of diabetes (Hu, Leitzmann, Stampfer, Colditz, Willett, & Rimm, 2001; Tucker & Bagwell, 1992).

Weight is a physical characteristic, not a behaviour. However, a person's weight is determined, to a large extent, by behaviours such as physical activity and dietary intake (Blair et al., 1985). Physically active people weigh considerably less than sedentary people (Blair et al., 1985). From a meta-analytic review of 16 studies, Epstein and Wing (1980) concluded that being overweight or obese resulted from a lack of exercise rather than from over eating. A recent Australian survey conducted by the NHMRC (1997) confirmed the strong relationships between increased body weight and obesity and a reduction in physical activity.

2.6 Sex and marital status differences in the distribution of risk factors and related mortality

2.6.1 Sex and marital status differences in alcohol consumption and related mortality

Across all age and socioeconomic groups, more men than women consume alcohol regularly (Dean, 1989; Makkai, 1994; Power & Estaugh, 1990; Statistics Canada, 1981). Fewer men than women are lifetime non-drinkers or lifetime infrequent drinkers (AIHW, 1996a; Dean, 1989; Grant, 1994). A higher proportion of men in the 25 to 44 years of age group consume alcohol than any other age group of men and women (Castles, 1994). Men drink alcohol on more occasions and drink a greater number of beverages per occasion than women (Grant, 1994). More men than women engage in heavy drinking episodes and consume alcohol at levels considered to be harmful or hazardous (AIHW, 1999b; Dean, 1989; English et al., 1995; Single & Wortley, 1993; Statistics Canada, 1981). Death rates for alcohol-related mortality were much higher for men than for women (de Looper & Bhatia, 1998), and high-risk alcohol consumption increased mortality for men, but not for women (Wingard, 1982).

Marital status is related to alcohol consumption patterns for men only. Married men have the lowest prevalence rates and never married, divorced, and separated men have the highest prevalence rates for high-risk drinking, binge drinking and weekly intoxication (Blaze-Temple et al., 1988; Hilton, 1991; Horwitz & Davies, 1994; Power, Rodgers, & Hope, 1999; Stockwell, Lang, & Rydon, 1993). Using longitudinal data from the 1958 British birth cohort study, Power et al (1999) showed that marital status differentials in heavy drinking patterns were not due to selection processes.

2.6.2 Sex and marital status differences in tobacco use and related mortality

Globally, 47% of men and 12% of women smoke cigarettes (World Bank, 1999). In developed countries, the smoking prevalence is approximately 40% for men and 20% for women (WHO, 1989b). In less developed countries, the gender gap is larger with a smoking prevalence of about 47% for men and 7% for women (Kozlowski, Henningfield, & Brigham, 2001). Not only do more men than women smoke, but men smoke more tobacco than women do (AIHW 1999b; 2002b; Battig, Buzzi, & Nil, 1982; Dean, 1989; Green & Harari, 1992; Hay, 1984; Hill & White, 1995; Joung et al., 1995; Makkai & McAllister, 1998; Russell, Wilson, Taylor, & Baker, 1980; Silverstein, Feld, & Kozlowski, 1980). Although a reduction in male smoking behaviour has been observed in developed countries, the rate of decline has slowed in recent years (Grunberg, Winders, & Wewers, 1991; Hill & White, 1995; Hill, White, & Gray, 1991; Hill, White, & Scollo, 1998; Makkai & McAllister, 1998; Peto, Lopez, Boreham, Thun, & Heath, 1992).

Men's greater use of tobacco is considered to account for their higher rates of mortality from cancer, especially lung cancer, diseases of the circulatory system and heart, and other miscellaneous conditions (English et al., 1995; Mathers, 1994a; 1994b; Peto et al., 1992). In Australia in 1992, cigarette smoking accounted for 40% of all male deaths and 20% of all female deaths (English et al., 1995).

Data on marital status patterns of tobacco use are rare. Some surveys have reported that more unmarried men than married men are regular tobacco users (Makkai, 1994), and divorced men have the highest prevalence rates, followed by widowed and single men (Joung et al., 1995; Retherford, 1975). Data from the 2001 Australian National Drug Strategy

indicated that tobacco use was highest among never married men (28%), followed by divorced/separated/widowed men (26.7%), and lowest among married men (20.5%) (AIHW, 2002b). Tobacco-related disease mortality rates were higher among divorced and widowed than they were in married men (Litwack & Messeri, 1989).

2.6.3 Sex and marital status differences in physical activity and related mortality

Australian survey data indicate that in general, men are slightly more physically active than women are, although this is not true across all age groups (AIHW, 2000). Between the ages of 45 to 59 years, more women than men are physically active. A sedentary lifestyle in middle age contributes to men's higher risk of heart disease (Mathers, 1994a). Men and women differ in the types, amount, and intensity of physical activity. More women than men walk for physical exercise (Ross & Hayes, 1988). Women are more likely than men to increase their level of exercise over time (AIHW, 2000; Cumming, Barton, Fahey, Wilson, & Leeder, 1989; Ferrini, Edelstein, & Barrett-Connor, 1994; Langlie, 1977). More men than women engage in strenuous physical exercise, such as football, tennis, basketball, and running (Castles, 1994; Connell, 1995; Ross & Hayes, 1988; Verbrugge, 1989). Strenuous physical exercise increases men's risk of injury, disability, cardiovascular disease, and bladder cancer (Castles, 1994; Curry, 1992; Messner, 1992; NHMRC, 1994; Shaper et al., 1991; Trewin, 2003; Wannamethee et al., 2001).

Although information about marital status is routinely collected in health surveys, it is rarely reported or analysed. In the relatively few international surveys that have reported marital status differences in physical activity levels, the findings are inconsistent. Some researchers have found that compared to married people, unmarried people are more likely to engage in physical exercise (Hayes & Ross, 1986; Mathers, 1994a), and married people are more likely than unmarried people are to be overweight (Mathers, 1994a; Ross & Mirowsky, 1983; Venters, 1986). In the Netherlands, more married men than widowed and single men engage in physical activity, but slightly more divorced and *de facto* men engage in physical activity than married men. Married men were more likely than any other groups to have normal body weight (Joung et al., 1997).

2.7 Explaining the sex and marital status difference in risk behaviours and mortality

2.7.1 The male sex/social role

Despite wide criticism of the sex-role theory (Connell, 1995; Delphy, 1993; Good, Borst, & Wallace, 1994; Kimmel, 1986), it has been invoked to account for differentials in morbidity and mortality (Barnett, Biener, & Baruch, 1987; Coleman & Antonucci, 1983; Crosby, 1984; Umberson, 1987; Verbrugge, 1983; 1985). Sex-role theory asserts that there are broad biological differences between men and women, and being a man or woman means enacting a prescribed set of attributes for one's biological sex. These attributes include social roles, attitudes, and behaviours that are deemed culturally appropriate for males and females. Essentially, masculinity and femininity are interpreted as internalised sex roles produced through sex-role socialisation. Men learn to be rational, unemotional, physically strong, independent, and aggressive and to enact the breadwinner role. Conversely, women learn to be passive, emotional, physically attractive, domestic, caring, weak, dependent and to enact the mother role. In essence, the sex-role paradigm states that appropriate sex-role internalisation or identity is necessary for psychological adjustment. Early sex-role views were that negative lifestyle behaviours such as cigarette smoking, alcohol use, and violent and aggressive behaviours were normative male sex-role expectations (Harrison, 1978). Contemporary theories focus on men's failure to achieve sex-role identity, which, in turn, may lead to masculine gender role stress that may influence unhealthy, risky or dysfunctional coping behaviours (Eisler & Blalock, 1991).

Although there is evidence that sex differentials in mortality were associated with sex differences in lifestyle behaviours, the sex-role theory is insufficient as the sole explanation for the associations. To argue that sex-roles accounted for the covariations, it would need to be demonstrated that when the common causes (i.e. biology, social roles, and lifestyle behaviours) were controlled statistically, the association between sex and mortality disappeared. This has not been done (Kaplan, Seeman, Cohen, Knudsen, & Guralnik, 1987; Verbrugge, 1989; Wingard, Suarez, & Barrett-Connor, 1983).

Waldron (1976) showed that only 75% of the sex difference in mortality could be attributed to tobacco and alcohol use. In the Alameda County Study (Wingard, 1982), the ratio of male to female all-cause mortality rate was 1.5. When 16 known risk factors were controlled for, the ratio rose to 1.7. Only older age, being unmarried, tobacco and alcohol use, and physical inactivity significantly predicted male mortality. In a Californian sample (Wingard et al., 1983), the sex ratio at the start of the study was 1.7 for all-cause mortality and 4.8 for ischaemic heart disease. When eight risk factors were controlled for, the all-cause mortality ratio only dropped to 1.3 and the heart disease ratio dropped only to 2.4. The strongest significant predictors of mortality for men were older age and cigarette smoking. High cholesterol levels and high blood pressure also predicted premature male mortality, but their contributions to explaining the sex differential in mortality were only small. Even when subjects with a history of heart disease, stroke, or hypertension were excluded, the sex differential for healthy men compared with healthy women was still 1.2 for all-cause mortality and 2.0 for heart disease. Among Australians, the age-adjusted sex and marital status differentials in self-reported fair/poor health status was 1.48 for never married men, 1.39 for previously married men, 1.11 for never married women, and 1.34 for previously married women. After controlling for 15 known social and behavioural risk factors, the ratios by marital status were reduced to non-significance for women, but not for men (1.28 for never married men, and 1.22 for previously married men) (Mathers, 1994a).

2.7.2 Social support

Another factor that is believed to moderate the effects of sex and marital status on health is a person's level of social support. Social support encompasses two main elements: emotional support and instrumental support (Gerstel et al., 1985; Ross et al., 1990). Emotional support is defined as the perception of being loved and cared about by others and instrumental support is the sense of being helped practically (Joung et al., 1997). Studies that have investigated the effects of social support on morbidity and mortality have operationalised the concept by measuring: (1) the size and composition of a person's social network; (2) a person's perceptions of being cared about; and (3) the levels of help received from others in the social network (Orth-Gomér & Undén, 1987; Undén & Orth-Gomér, 1989). The pathways through which social support improves health and longevity are not well understood. It is believed to indirectly affect health by buffering the negative effect of

stress. It may decrease depression, anxiety and increase psychological well-being, which indirectly improves physical health (Kawachi & Berkman, 2001; Ross et al., 1990). It may directly affect health by improving blood pressure levels, increasing immune function, and by reducing the secretion of stress-related hormones (Seeman, 1996; Seeman & McEwen, 1996; Uchino, Cacioppo, & Kiecolt-Glaser, 1996).

Prospective epidemiological studies have found that higher composite scores on indices of social support (frequency of contact with friends/relatives, church group membership, other group membership, perceptions of social integration) were significantly related to a reduced risk of mortality (Berkman & Syme, 1979; Blazer, 1982; Eng, Rimm, Fitzmaurice, & Kawachi, 2002; House, Landis, & Umberson, 1988; Kawachi, Colditz, Ascherio, Rimm, Giovannucci, Stampfer, & Willett, 1996; Reynolds & Kaplan, 1990; Rozanski, Blumenthal, & Kaplan, 1999; Seeman, 1996; 2000; Seeman, Kaplan, Knudsen, Cohen, & Guralnik, 1987; Vogt, Mullooly, Ernst, Pope, & Hollis, 1992).

The evidence for the relationship between social ties and disease incidence is less conclusive (Seeman, 1996). In the United States, a greater number of social ties reduced men's risk of stroke incidence, but not myocardial infarction (Kawachi et al., 1996). In Japanese-American men, there were no associations between social support and incidences of heart disease, stroke, cancer, or all diseases combined (Reed, McGee, & Yano, 1984; Reed, McGee, Yano, & Feinleib, 1983). Vogt et al (1992) found that people who reported a wider range of social ties experienced significantly lower incidence of myocardial infarction, but not for other disease outcomes. Furthermore, not all networks are supportive (Birditt & Fingerman, 2003; Kawachi & Berkman, 2001). Gerstel (1988) found that increased social support was associated with increased depressive symptomatology among men, and social support exacerbated psychological distress among people who were recently physically disabled or conjugally bereaved (Finch, Okun, Barrera, Zautra, & Reich, 1989).

Although the importance of social ties for longevity has been well documented, this research has been unable to establish which specific ties are beneficial to longevity. A few rare studies have indicated that a lack of a spouse and infrequent contact with close friends and relatives were the strongest predictors of increased mortality risk for men, but not for women

(Berkman & Syme, 1979; Kawachi et al., 1996; Tucker, Schwartz, Clark, & Friedman, 1999; Unger, McAvay, Bruce, Berkman, & Seeman, 1999).

There is some evidence to suggest that the relationship between social ties and longevity can be explained by leisure and unhealthy lifestyle behaviours. In a sample of Swedish men, increased attendance at parties, participation in organised sport, visiting friends and attendance at trade union meetings were related to a reduced risk of mortality from all causes (Welin, Tibblin, Svardsudd, Tibblin, Ander-Peciva, Larsson, & Wilhelmsen, 1985). In the Tecumseh Community Health longitudinal study (House, Robbins, & Metzner, 1982), married men and men who were involved in community organisations engaged more often in active leisure pursuits and social activities, and less often in sedentary leisure activities. These men had the lowest risk of all-cause mortality over the 12-year period. The data also showed that men's social ties and active leisure did not linearly affect mortality. The optimum protective effect for mortality occurred at the moderate level of social network and social activities and active leisure. The lowest levels of social network and activity and highest levels of passive leisure were associated with the highest mortality rates, and mortality increased when the level of activity exceeded the moderate level. Therefore, in some cases, greater levels of social and physical activities were deleterious to health.

Data from the MONICA survey showed a significant inverse association between scores on a social network index and the prevalence of cigarette smoking (Härtel, Stieber, & Keil, 1988). Osler (1995) found that Danish men who reported having low contact with family and friends and low community involvement were more often inactive during leisure time, were more likely to smoke cigarettes, and were less likely to eat a healthy diet. Broman (1993) reported that the spousal relationship was the strongest predictor of reduced tobacco and alcohol use, particularly heavy drinking. Having a close friend and being a member of a voluntary organisation reduced cigarette smoking. However, Broman (1993) did not analyse sex differences, so it is unclear whether the associations were the same for men and women. Huddleston and Hawkins (1991) reported that following divorce, men reduced time spent in active social events such as attendance at community meetings, visits with friends and attendance at shows, whereas divorced women increased time spent on these activities. More men than women reported spending more time alone and this was associated with an increase in alcohol consumption and an increase in time spent viewing television. Thus,

following divorce, women became more active, whereas men spent more time alone and decreased their active leisure, and these behaviours were associated with a concomitant increase in sedentary leisure activities and lifestyle risk factors.

2.7.3 Social control

Some theorists have hypothesised that marriage improves men's health through social control. Apparently, wives, more than husbands, are conduits of social control by discouraging negative lifestyle behaviours such as cigarette smoking, alcohol consumption, physical inactivity and poor dietary habits (Anson, 1989; Umberson, 1987; 1992). However, as the current review has demonstrated, not all healthy behaviours are increased by marriage (Hayes & Ross, 1986; Ross & Mirowsky, 1983; Venters, 1986), and the effect of social ties on negative lifestyle behaviours is not only operative through the spouse, although this appears to be the strongest relationship. Data from the Longitudinal Aging Study in Amsterdam showed that the spouse relationship improved a person's physical functioning only in the absence of any chronic disease (Bisschop, Kriegsman, van Tilburg, Penninx, van Eijk, & Deeg, 2003). Thus, factors other than the regulation of behaviour appear to be operating to affect men's health.

2.8 Summary

In most developed countries, men, on average, die earlier than women do. Male mortality is highest for cardiovascular disease, cancer, injuries, accidents, and suicide. In combination with biological (age and biological health risk), socioeconomic (income and education), and social role variables (employment, marital, and parental status), some lifestyle factors are strongly associated with men's morbidity and premature mortality. The most ubiquitous behavioural predictors are alcohol and tobacco use, sedentary behaviour, and leisure time physical inactivity. However, in combination with biological and social risk factors, sex and marital status differences in lifestyle variables are necessary, but not sufficient, to explain the sex and marital status differentials in mortality. While the studies on sex differences in mortality previously reviewed continue to be the most frequently cited works in the area, they are now over two decades old. Epidemiological research continues to use unreliable baseline quantity-frequency measures of risk factors that may overestimate levels of physical

activity and underestimate sedentary behaviour and levels of tobacco and alcohol use, particularly high-risk alcohol consumption. Evidence indicates that many risk factors act synergistically on health and mortality; however, very little systematic or rigorous research has been conducted to disentangle those effects. Measures of alcohol use disorders and other psychiatric morbidity have been excluded from those mortality studies. Variability in the subsets of lifestyle risk factors studied and in the research designs have made interpretation of inconsistent results difficult. Despite repeated calls from scholars in the field for research to uncover the 'elusive risk factor(s)' that may equalise the mortality differentials, little advancement in this area has been made.

More recent work has focussed on social network variables in explaining the sex and marital status differentials in morbidity and mortality. However, for men's mortality, variations in the number of social ties appear to reflect the presence or absence of a spouse, and to a lesser extent, active involvement in the community. Lifestyle risk factors and leisure time behaviours appear to mediate the relationship between those social ties and mortality. More specifically, an active leisure lifestyle in the presence of a spouse or with community involvement appears to indirectly affect mortality by either shaping or deterring leisure and lifestyle behaviours that were the more proximate causes or protectors of premature death. In short, men's health and mortality may be determined, to a large extent, by the degree to which they have an active leisure lifestyle with their wives and within the community. The relationship between men's friendship networks, social activities, and mortality is unclear. It appears that at a moderate level, these associations are beneficial to men, but an overactive lifestyle in the presence of friends is disadvantageous to some men in unknown ways. Therefore, any analysis of sex differences in health and mortality must move away from a perspective that focuses solely on differences between men and women. Adherence to a framework that emphasises broad sex differences brings research no closer to understanding why some men consistently endure the rigid and constraining sex-role expectations, how and why men do not suffer equally, and more importantly, why they are resistant to change (Segal, 1990). Research must focus on lifestyle risk factors in the context of men's leisure time use and the spousal relationship.

CHAPTER 3

MEN'S LEISURE TIME

3.1 Introductory comments

Since the 1960's, academic thought has been swept by a powerful set of social, political, and intellectual movements broadly understood as feminism. Feminist theory has offered a means for understanding the ways in which the concept of femininity has been historically defined and how the economic and social structures of capitalist society provide a basis for its maintenance. Although feminist theories date back to the 15th century (Jary & Jary, 1991), it was the onset of modern feminism that saw the emergence of five theoretical perspectives, each describing their approach as either liberal, Marxist, socialist, radical, or psychoanalytic (Tong, 1995). Each theoretical framework partially explains the origin of sexual inequalities between men and women and male domination over women. Each approach has been widely acclaimed for its respective strengths and criticised for its relative weaknesses. Feminist theory relies on an analysis of gender difference and tends to address itself to what is unique about women (Flax, 1987), and largely excludes men and ignores the concept of masculinity (Glickman, 1995). When feminists do discuss men and men's practices, it is often in a critical voice. Many scholars have demanded a feminist theory that addresses the problems associated with being a man, and have emphasised the need for a gender-relations analysis of men's health issues (Connell, 1995; Courtenay & Keeling, 2000; Hanmer, 1990; Paulsen, 1999; Schofield, Connell, Walker, Wood, & Butland, 2000).

The investigation of the health effects of men's leisure time activities in the context of the spousal relationship requires an examination of men's relationships with women as well as an understanding of the social construction of the concepts of masculinity and femininity (Connell, 1995; Hartmann, 1981; Seccombe, 1986). The current research invokes a dual-systems feminist analysis of masculinity to explore men's experiences in a framework of patriarchy. This theoretical framework is unique in its ability to employ material concepts such as the gendered division of labour to explain how and why women are oppressed, how men differentially benefit from women's oppression, how the patriarchal dividends are differentially distributed among men according to their position in a masculinist hierarchy, and how those benefits differentially affect men's health.

Masculinity is the embodiment of a contemporary set of beliefs, values, attitudes, and behaviours that are associated with what it is to be a man. In essence, masculinity is all that is not feminine (Connell, 1995). A key issue in masculinist theories is that in patriarchal societies, there are multiple masculinities that exist in a hierarchy (Connell, 1995; Kimmel, 1996). There is a dominant, or 'hegemonic' masculinity that is socially constructed in relation to women and in relation to subordinate masculinities. Hegemonic masculinity is argued to be beneficial to men as it defends and sustains patriarchy. Although not all men fit the norm of hegemonic masculinity, the majority of men benefit from it. Hegemonic masculinity embraces heterosexuality, aggressiveness and violence against women and other men, the gendered division of labour, competitiveness, success, wealth, power, and status.

Dual-systems feminist theory can be understood as a conflation of radical feminism and Marxist theories. Its development arose from dissatisfaction with radical feminism's reliance on locating psychological qualities within biology, and traditional Marxist thought that emphasised women's relationship to the economic system rather than their subordination to men (Hartmann, 1981; Tong, 1995). Hartmann (1981) proposed dual-systems theory that gives equal weight to capitalism and patriarchy to understand "why women are subordinate to men inside and outside the family and why it is not the other way around" (p. 10). It emphasises the concrete material base rather than a biological base of patriarchal relations in capitalist societies (Deckard, 1979). Hartmann (1981) defined patriarchal relations as:

...a set of social relations between men, which have a material base, and which, though hierarchical, establish or create interdependence and solidarity among men that enable them to dominate women (p. 14).

The material base of patriarchy is men's control over women's labour. This power or control over women's labour is appropriated and maintained by excluding women from economic resources and from restricting women's sexuality and reproduction. The sexual division of labour is the basis of male power, and as Young (1981) argued, it is probably the foundation of the concept of gender itself:

...The strict division of labor by sex...is also the underpinning of sexual subcultures in which men and women experience life differently; it is the material base of male power which is exercised (in our society) not just in not doing housework and in securing superior employment, but psychologically as well (Hartmann, 1981, p. 16).

Dual-systems and masculinist theories emphasise not only the reproductive nature of women's labour and how it is necessary for "primary physical survival" (Oakley, 1974, p. 459), but also the ways in which men have their physical and material needs met by women (Barrett, 1980; Connell, 1995; Glendinning & Millar, 1987). Men exercise control over women's labour by "receiving personal services work from women, in not having to do housework or rear children, in having access to women's bodies for sex, and in feeling powerful and being powerful" (Hartmann, 1981, p. 18). Other scholars describe additional, more elusive material benefits that men receive from control over women's labour, such as the emotional work that women do in caring *for* and caring *about* men (Delphy & Leonard, 1992; Graham, 1993). Berk (1985) suggested that the marital home is a 'gender factory' where in addition to goods, services, and emotional work, housework 'produces' gender (West & Zimmerman, 1987). Specifically, women's domestic work and men's avoidance of it provides avenues for men and women to enact behaviours symbolically linked to gender (Berk, 1985; John & Shelton, 1997). Men may enact behaviours such as power and dominance, whereas women may display behaviours such as submissiveness, and love and care (Berk, 1985; DeVault, 1991; Ferree, 1990).

Several authors have also briefly discussed the ways in which the gendered division of labour translates directly into leisure benefits for men (McMahon, 1994). For example, Wearing and Wearing (1988) theorised about the ways in which men's freedom from domestic work enabled them to engage in additional leisure and recreational activities. Hartmann (1981) discussed men's higher standard of living from increased leisure time. Thus, men's increased leisure time, and their avoidance of housework, may be two interdependent resources that they use to construct and reconstruct masculinity. Although a large body of feminist and men's movement literature has discussed the patriarchal benefits of the gendered division of labour, less has been written about whether leisure provides behavioural contexts for patriarchal dividends through the construction and reconstruction of masculinities.

3.3 Time-use methodology

Investigation into men's leisure relies on time-use methodology. Time-use studies, often referred to as time-budget studies, have been used since the 1960's to reflect the behaviour of a population in a prospective, temporal and open-ended manner. They show how people use their time during a fixed time period, ranging from quite short intervals to daily, weekly, or longer periods of time. Time-use studies provide "an otherwise unavailable glimpse of *all* the things people do..." (Robinson & Godbey, 1999, p. 289), and provide substantially more comprehensive information on all aspects of leisure time use than standard quantity-frequency measures (Harvey & Pentland, 1999). Time-use methodology is the most valid and reliable method of measuring, describing and analysing the patterning of men's leisure time (Harvey, 1999; Juster & Stafford, 1991; Robinson, 1999).

An additional feature of the time-use method is its ability to combine activity data with personal factors (age, sex, occupation, parenthood, marital status), environmental factors (days of the week, seasons of the year, geographical location), and resources, such as income and educational level (Juster & Stafford, 1991; Robinson, 1977; 1983). These indicators are all known to be associated with morbidity and mortality, yet time-use methodology has not been used in epidemiological research.

Two major time-budget methodologies have been utilised: the experience sampling method (ESM) and the prospective time-use diary method. The ESM method requires people to record what activity they were doing when signalled by a beeper at random times during the day (Csikszentmihalyi & Larson, 1987; Larson & Csikszentmihalyi, 1983). This method provides only a 'snap shot' of daily activities, and the equipment is prone to signal failure (Larson, Richards, & Perry-Jenkins, 1994). The prospective time-use diary is a more comprehensive data collection method as it represents a complete account of people's daily lives (Harvey & Pentland, 1999; Robinson, 1999). The diary contemporaneously records the sequence and duration of all daily activities, step-by-step, in the respondent's own words. Time-use data are collected over a fixed time period, which is usually 24 or 48 hours, over separate periods of time over a calendar year to capture seasonal variations in behaviour (ABS, 1992a; 1997c; Harvey & Pentland, 1999; Robinson & Godbey, 1999). Time-use diaries have been used to collect data on the main activities people engage in during a

specified period, as well as what else people were doing at the same time (secondary activities). Information has often been gathered in relation to where the actor was when the activity took place, and who else was present during the activity. These data have been used to analyse the contextual and social factors associated with people's time use, and more recently, to develop qualitative indicators of how time is experienced (Bittman & Wajcman, 1999; Gunthorpe & Bloomfield, 2004; Mattingly & Bianchi, 2003).

The structure of the time-use diary was originally developed for the 1965-66 Multinational Time-Use Project (Szalai, Converse, Feldheim, Scheuch, & Stone, 1972). Time-use methodology has been adopted for many large scale national surveys in many countries, including the United States (Mattingly & Bianchi, 2003; Robinson & Godbey, 1999), Canada (Frederick, 1995), Holland (Zuzanek, Beckers, & Peters, 1998), New Zealand (Statistics New Zealand, 2001), the United Kingdom (Sullivan & Gershuny, 2001), Denmark, Sweden, and Norway (Thrane, 2000), and during the 1992 and 1997 Australian Time-Use surveys (ABS, 1992a; 1997c).

A further strength of the time-use methodology is that similar activity coding classification systems are used across countries, and an international standard coding classification system is being developed. Most surveys have adopted the standardised activity coding system developed for the Multinational Time-Use Project (Szalai et al., 1972). The activity codes developed by Szalai et al (1972) are recognised as encompassing most aspects of human behaviour, and are usually reduced to 10 major activity categories. These activity coding categories are: personal care, employment, education, domestic, childcare, purchasing goods and services, voluntary work, socialising, active leisure, and passive leisure. All activities within each of the 10 categories can be fitted within the four typologies of time identified by Ås (1978): necessary time; contracted time; committed time; and free time.

Necessary time described activities that served basic physiological needs such as sleeping, eating and personal hygiene. Contracted time referred to all activities that were structured by explicit contracts controlling allocated periods of time. These included activities relating to the labour force, including associated travel time to and from the workplace and waiting time. All activities relating to education were also considered as contracted time. Committed time included activities that were the consequences of a previous commitment

such as marriage, having children, or buying a house, car, or boat. Domestic activities such as childcare, housework, caring for the sick, elderly, frail, disabled, helping others and shopping for the household or members of the household were included in this category. Free time was the amount of time that remained after time for necessary, contracted, and committed time was accounted for.

Ås (1978) observed that the types of activities that were conducted during free time included the participation in sports and other physical exercise such as walking, and the participation in tours, excursions and hikes. Various kinds of hobbies and creative activities were included in this category along with any attendance at adult education facilities relating to those activities. Other activities included in the free time category included attendance at the theatre, concerts, opera, museums and other forms of entertainment or cultural events, including going to a restaurant for a meal, and visiting or talking to neighbours, friends and family or attending parties. Television viewing, listening to music and reading, relaxing, reflecting, thinking, and doing nothing in particular were also included in the free time category. All voluntary work and activities related to community participation were also described as free time activities. All of these activities could be classified as active leisure, social activities, or passive leisure.

Free time coding variations across surveys do exist. For example, in 1992, the Australian and Canadian Time-Use surveys adopted the three free time activity codes of active leisure, passive leisure, and social activities (ABS, 1997c; Frederick, 1995; Juster, 1985). In the 1997 Australian Time-Use survey (ABS, 1997c), active leisure and passive leisure were combined into a single group of 'Recreation and Leisure'. These differences in the coding categories can make it difficult to compare free time-use patterns between countries as well as across time within countries. Despite the differences in the free time codes, each set encompasses all of the activities that Ås (1978) argued were conducted during free time, and provide valid and reliable estimates of free time activity patterns (Harvey, 1999; Juster & Stafford, 1991; Robinson, 1999). However, some ambiguity remains in relation to the placement of voluntary work and community activities. Although Ås (1978) categorised them as free time activities, in contemporary times, these activities have taken on more work-like characteristics and some surveys have included them in the committed time activity (ABS, 1992a; 1997c; Frederick, 1995).

3.4 Definition of leisure

In an analysis of the four typologies of time, Ås (1978) demonstrated the constraining nature of necessary, contracted, and committed time. He showed that necessary time activities served basic human physiological needs and were the highest priority among all human activities. Contracted time activities were second priority and were typically long and influenced other daily activities to a large extent. Committed time activities were prioritised third. Free time was time remaining after time for necessary, contracted and committed time activities were accounted for. The priorities assigned to each typology of time provide an objective method for defining leisure time. Thus, in time-use research, leisure is operationalised as the product of the subtraction of necessary, contracted, and committed time from a 24-hour day. Therefore, leisure and free time are synonymous.

There is theoretical and political disagreement about this definition of leisure. International and Australian Government policies espouse people's rights to access leisure and to derive psychological and physical health benefits from leisure activities (Trewin, 2003). A description of leisure in terms of available time rests upon a sharp distinction between work and leisure, and it has been criticised on the basis that it attributes greater value to work than leisure in the pursuit of human fulfilment (Fox, 1992; Mullett, 1988). Feminist scholars have also criticised this definition of leisure by arguing that unpaid work usually performed by women does not fit easily into the categories of either work or leisure, and sometimes includes aspects of both categories (Deem, 1982; 1987; Fox, 1992; Shaw, 1986; Wearing, 1990; Wearing & Wearing, 1988).

To avoid the dichotomy between work and leisure, Csikszentmihalyi (1975; 1988; 1990) moved away from describing and measuring leisure objectively. Using experience sampling methodology (ESM) (Csikszentmihalyi & Larson, 1987; Larson & Csikszentmihalyi, 1983), he measured the subjective aspects of the leisure experience, namely the psychological state characterised by a sense of enjoyment. Enjoyment results from an experience of 'flow', defined as a match between a person's skill level and the challenges inherent in the activity. Csikszentmihalyi (1975) argued that enjoyment is an intrinsic reward that can be achieved in any activity, but the potential for flow experiences would be greater during leisure than at work, as work is typically performed for extrinsic rewards such as income and status.

However, ESM studies have shown that the majority of 'flow' experiences occurred at work or while studying, but not during leisure (Carli, Delle Fave, & Massimini, 1988; Csikszentmihalyi & LeFevre, 1989; LeFevre, 1988). Juster (1985) found that Americans enjoyed work and family activities more than they enjoyed leisure activities. Other literature has shown that not all flow experiences were perceived as enjoyable, and enjoyment was reported during activities that were characterised by a mismatch between skill level and challenge (Clarke & Haworth, 1994; Haworth & Evans, 1995).

Another position is that an activity must be perceived as freely chosen and intrinsically motivated for it to be experienced as leisure (Csikszentmihalyi & LeFevre, 1989; Graef, Csikszentmihalyi, & Gianinno, 1983; Iso-Ahola, 1979; 1980; 1997; Mannell, Zuzanek, & Larson, 1988; Neulinger, 1974; 1981; Roberts, 1981). Other leisure scholars have attempted to provide a typology of leisure based on subjective classifications of activities as either 'work' or 'leisure' (Clark, Harvey, & Shaw, 1990; Samdahl, 1992; Shaw, 1985; 1986), assessments of liking an activity (Lawton, Moss, & Fulcomer, 1987; Moss & Lawton, 1982), positive mood (Clark & Watson, 1988; Lawton, DeVoe, & Parmelee, 1995), and feelings of cheerfulness, relaxation, happiness and sociability (Kubey, 1986; Kubey & Csikszentmihalyi, 1990). However, these studies have been unable to arrive at a system that classifies leisure activities according to the functions they perform in human adaptation or well-being (Zuzanek, 1991). Furthermore, those subjective assessments were more likely to be experienced during activities that were performed while at home, in the evenings, and on weekends, which are precisely the time periods that have traditionally been used as an objective measure of leisure time (i.e. free time). Even when people were asked what activities during the day they perceived as leisure, most reported free time activities or activities that occurred during the evenings, on weekends, and at home with the family (Clark et al., 1990; Samdahl & Jekubovich, 1993; Shaw, 1985; 1986). Samdahl and Jekubovich (1993) concluded from their results that, "throughout the past decade leisure researchers have worked hard to dispel the free-time notion of leisure, yet [the present results] might effectively confirm a perspective that leisure simply appears when other tasks are complete" (p. 138).

3.5 The leisurely lives of men

Studies investigating the gendered division of labour are not unanimous in support of the feminist conception of men as net consumers of women's labour. Some researchers have reported that men have more leisure time than women (Coverman & Sheley, 1986; Firestone & Shelton, 1994; Frederick, 1995; Gershuny, 2000; Mattingly & Bianchi, 2003; Robinson, 1989; 1990a; Thrane, 2000; Zuzanek & Smale, 1997). Other studies reported no sex difference (Nock & Kingston, 1989; Shelton, 1992). The findings of Bittman (1998), Bittman and Wajcman (1999), and Robinson and Godbey (1999) indicated that any sex difference in free time availability was small and inconsequential. On average, men and women have approximately 40 hours per week of free time (ABS, 1992a; 1997c; Bittman, 1998; Bittman & Wajcman, 1999; Frederick, 1995; Robinson & Godbey, 1999).

Gender interacts with demographic factors and other time-use variables to show that leisure is a male domain. Being employed and time spent in paid employment reduces leisure time for both men and women (Coverman & Sheley, 1986; Mattingly & Bianchi, 2003; Nock & Kingston, 1989; Shelton, 1992), but the effect is stronger for men than for women (Jackson & Henderson, 1995; Robinson & Godbey, 1999; Shaw, 1985; Thrane, 2000). However, Mattingly and Bianchi (2003) and Bittman (1998) respectively found that hours spent in employment and being employed full-time reduced leisure time for women, but not for men.

Few studies have investigated the direct effects of unpaid work on leisure time, of which the results are mixed. Nock and Kingston (1989) and Shelton (1992) found that time spent in housework was negatively related to leisure time for men and women. For each additional hour spent on housework, between 28.8 and 38.4 minutes less was spent on leisure. Coverman and Sheley (1986) reported that unpaid work was inversely related to leisure time among a sample of men. Thrane (2000) found that time spent in housework was not related to leisure time for men or women in three Scandinavian countries. However, the majority of this research, with the exception of Nock and Kingston's (1989) study, did not include the time spent in childcare in their measures of unpaid work.

Time spent in paid employment is negatively correlated with time spent in unpaid work for men and women (Bianchi, Milkie, Sayer, & Robinson, 2000; Bittman, 1991; Coltrane & Ishii-

Kuntz, 1992; Coverman, 1985; Coverman & Sheley, 1986; John & Shelton, 1997; Shelton, 1992; South & Spitze, 1994), but the association is stronger for women than for men (Bittman, 1991; Shelton, 1992; South & Spitze, 1994). This finding has led some scholars to suggest that the real effect of gender on leisure time availability is indirect. Less time spent in paid work increases leisure time for men, but the same decrease in paid work for women actually decreases leisure by increasing unpaid work (Model, Stiers, & Weber, 1992). Specifically, men exchange paid work for leisure and women exchange paid work for unpaid work (Bittman, 1998; 1999).

Studies have consistently shown that regardless of employment status, age, and marital and/or parental status, women spend more time in domestic work and childcare than men. Men spend more time in paid work than women (Baxter, 1993; Baxter, Gibson, & Lynch-Blosse, 1990; Bird & Fremont, 1991; Bittman & Lovejoy, 1993; Blair & Johnson, 1992; Blair & Lichter, 1991; Coltrane & Ishii-Kuntz, 1992; Green, Hebron, & Woodward, 1990; Hochschild, 1989; McMahon, 1999; Presser, 1994; Robinson & Spitze, 1992; Sanchez, 1993; 1994; Shelton, 1990; 1992; Shelton & John, 1996; South & Spitze, 1994). While the ratio of women's to men's domestic workload has declined over time, in Australia, women still spend over twice as much time as men doing unpaid labour (Bittman, 1998). The narrowing of the gender gap in time spent in unpaid labour is due more to a decrease in the time women spend in those tasks rather than an increase in participation by men (Bianchi et al., 2000; Coverman & Sheley, 1986; Shelton, 1992).

Marital status and parenthood also affects men's use of time. Married men spend more hours at work than when they were unmarried (Coverman, 1985; Nock, 1998; Shelton, 1992). Marriage and parenthood increase men's participation in unpaid work, but not to the same extent as they do for women (ABS, 1997c; Berk, 1985; Bittman, 1991; 1998; Frederick, 1995; Robinson & Godbey, 1999). However, most studies find that overall, there is little, or no difference between married and unmarried men in the time they spend in domestic work (Bianchi et al., 2000; Shelton & John, 1993; South & Spitze, 1994). Some studies have actually shown that men's housework contribution declines when they marry and become fathers (Bittman, 1991; Gupta, 1999; Presser, 1994; Sanchez & Thomson, 1997). Women's housework and childcare, and to a lesser extent, men's unpaid work, increases as the number of children in the household increases (Bergen, 1991; McAllister, 1990; Presser, 1994;

Shelton & John, 1993; South & Spitze, 1994). As children grow older, fathers, but not mothers, regain pre-parental leisure patterns (Altergott & Cornell McCreedy, 1993; Smith, 1987).

The net result is that employed women spend less time in leisure than employed men, and marriage and parenthood reduce leisure time more for women than for men (Bittman, 1998; Mattingly & Bianchi, 2003; Peters & Raaijmakers, 1998; Smith, 1987; Thrane, 2000). In 1992, this equated to a 7-hour per week leisure deficit for employed Canadian women (Frederick, 1995), and 3.5 hours less free time for employed Australian women (Bittman, 1998). In Australia in 1992, fathers of pre-school aged children had 56% more free time than comparable mothers (Bittman, 1998).

Most time-use diary assessments of free time have relied solely on estimates of average daily or weekly participation rates. Although national time-use data represent all days of the week, very little work has been done in relation to the effects of specific days of the week on time-use. The several studies that have investigated this have found sex inequalities in free time availability. In Australia, men's free time use, but not women's, forms a U-shaped curve across the week. Free time availability is lowest between Tuesdays and Thursdays and rises either side of those days, to reflect a pattern of unfragmented free time consolidation around the weekend (Bittman, 1998). In comparison to women, men spend, on average, nearly 1.5 hours more in free time activities on Saturday and about one additional hour on Sunday (Bittman, 1998). In Canada, on Saturdays, both men's and women's leisure time increases relative to weekdays, although single men and employed fathers respectively spend approximately 75 minutes and 120 minutes more on leisure activities than their female counterparts. On Sundays, employed fathers' leisure time increases to 150 minutes. Overall, on Sundays, employed fathers spend nearly seven hours and single men spend nearly eight hours on leisure activities (Zuzanek & Smale, 1999).

Time-use research also shows gender inequalities in the subjective experiences of leisure. A significantly higher proportion of women's leisure activities than men's leisure activities are conducted in combination with unpaid work. Women's leisure activities are significantly shorter in duration and are more often interrupted by childcare and housework demands than men's (Bittman & Wajcman, 1999; Gunthorpe & Bloomfield, 2004; Mattingly &

Bianchi, 2003; Sullivan, 1997). Even men's domestic and childcare activities border on being leisurely. Research has shown that when men did engage in childcare activities, they were not actively engaged with their children, or their childcare included 'play' or leisure-like activities (Barnett & Baruch, 1988; Berk, 1985; Berk & Berk, 1979; Bittman, 1991; Cohen, 1993; Coleman, 1988; Luxton, 1983; Meissner, 1977; Oakley, 1974; Wearing & Wearing, 1988). Men's childcare activities are usually performed while watching television, during social activities, or with wives present (Craig, 2002; McMahon, 1994). Men prefer the more pleasant aspects of childcare that incorporate a leisure component, such as playing games with children and taking them to school sporting events (Burns & Homel, 1989; Dempsey, 1988). The domestic tasks that have traditionally been described as 'men's work', such as gardening, car maintenance, and household repairs have characteristics that "approximate a state of leisure and where discretion is greater" (Meissner, Humphries, Meis, & Scheu, 1975, p. 430). The work that men do in the home can easily be given low priority and put aside if desired (Baxter, 1993; Bittman & Matheson, 1996; Dempsey, 1988; 1997; McMahon, 1999). Indeed, only 50% of men who participated in the Australian time-use studies reported doing home maintenance or gardening activities at least once during the two days surveyed (ABS, 1992a; 1997c).

Deem (1987) argued that men believe that leisure is a male privilege and they preserve time from paid labour for such purposes. Dempsey (1990) described the ways in which husbands ensured wives maintained overall responsibility for domestic work because for men, these tasks "are more likely to interfere seriously with leisure, paid work, and career advancement" (p. 284). One woman in William's (1981) study elucidated this position, "My responsibility is to bring the kids up, he provides for them, but it's up to me to keep the house clean. His part of the marriage is just bringing home money" (p. 146). Thus, more than women, men may use leisure as recuperative time from the demands associated with work. There is some evidence for this perspective.

In 1973, Americans were more satisfied with most of their free time activities than with work (Robinson & Godbey, 1999). In 1985, Americans reported liking all their free time activities more than they liked their work or domestic activities (Robinson & Godbey, 1999). People feel more cheerful and more relaxed while watching television, dining out, attending parties, sports and games, club meetings, and cultural and entertainment events than while at

work (Kubey & Csikszentmihalyi, 1990; Robinson & Godbey, 1999). However, divergent affective experiences across work and leisure domains may differ by gender. Men experience more positive affective states at home than at work, whereas women experience more positive affect outside the home, including work, than while at home (Larson et al., 1994). Larson, Gillman, and Richards (1997) reported that when men and women experienced positive affective states during family based leisure, the effect was greater for men than for women.

In conclusion, social institutions and gender relations affect men's leisure time usage and the experience of leisure. Thus, leisure may be a behavioural context where masculinity is constructed and reconstructed. Several benefits that men receive from patriarchy are additional leisure time and positive affective experiences, but not all men benefit equally. Benefits are differentially distributed among masculinity hierarchies (employment status, marital status, and parental status). Thus, if leisure time availability and any benefits received from leisure are differentially distributed by sex, and marital status, then those factors may influence the sex and marital status differences in mortality risk.

CHAPTER 4

BOREDOM DURING MEN'S UNSTRUCTURED FREE TIME, INACTIVE LEISURE TIME USE, UNHEALTHY LIFESTYLE BEHAVIOURS, AND MORTALITY RISK

4.1 The theoretical model

The recognition that women's oppression may be beneficial to men's leisure time availability and positive affect is, in itself, insufficient to explain why men, on average, die earlier than women. It is noteworthy that such a critique is absent from the current feminist and men's movement literature. However, Barrett (1980) did briefly challenge the notion that men benefit from the gendered division of labour. Her critique focussed on two aspects of the breadwinner role. First, she asserted that the role of breadwinner "locks men into wage labour" (p. 217), placing them under strain to remain docile workers in order to maintain their jobs and the family's security. Second, the nature of the male breadwinner role has "deprived men of significant access to their children" (p. 217). While Barrett did admit that men perceive the worker role as preferable to 'dependant' given their perseverance at maintaining the division of labour, she posited that the breadwinner role may have "consequences that are not so desirable" (p. 216). However, with an emphasis on the benefits and disadvantages of paid work for men, discussions rarely centre on the implications of the worker role for their leisure time. At the same time, men's limited involvement in domestic work and childcare may affect the ways in which they use and perceive leisure time.

The subjective experiences associated with the gendered division of labour and how they differ according to a man's position in the masculinist hierarchy may be just as important, or more important, to how men use leisure time, and ultimately, to men's mortality risk. The inability of known biological, environmental and behavioural risk factors to fully explain sex and marital status differentials in mortality has led epidemiologists to call for research examining the interaction of these variables, or to search for an elusive social or biological factor (Verbrugge, 1989; Wingard, 1982; 1984). Until recently, the contribution of psychological factors in explaining the variance in men's morbidity and mortality has been ignored. If it can be demonstrated that social structures, women, and other men affect

men's psychological experiences of leisure, which in turn, directly affect men's behaviour and mortality risk, then our knowledge of, and the ability to improve men's health and longevity, will be greatly advanced.

Time-use data have enabled detailed analyses to be conducted on how human behaviour changes as a function of time. For these reasons, time-use studies have been useful in the disciplines of sociology and economics and have helped to guide socioeconomic policy and planning (Robinson, 1999). However, time-use research has been descriptive rather than inferential, leading researchers to call for the collection of subjective data for deeper levels of analysis (Lawton, 1999; Zuzanek, 1991). Until the introduction of the experience-sampling methodology (ESM) (Csikszentmihalyi & Larson, 1987; Larson & Csikszentmihalyi, 1983), time-use data have been largely ignored in the discipline of psychology. In addition to the collection of objective data, ESM techniques have enabled respondents to record how they felt about the activity they were doing when they were signalled (Csikszentmihalyi, 1990).

Although ESM research has increased knowledge of people's changes in mood and attitudes as they change their behaviour over time, respondents are only signalled at random intervals during the day, providing restricted information on the subjective aspects of their activities. Furthermore, these studies have focussed on a limited set of subjective indicators, and no strong relationships have been identified between those subjective assessments and how people use their time (Robinson, 1983). The challenge for time-use researchers is to conduct further analyses on the temporal sequencing and social contexts of activities, as well as the meanings that people ascribe to activities, why they do them, and how they feel during activities (Harvey, 1991; Zuzanek, 1991).

This thesis employs time-use methodology to test a theoretical model that integrates biological, socioeconomic, social, time-use, leisure, behavioural, and psychological factors into a comprehensive account of how leisure influences the sex and marital status differentials in mortality risk. It examines the direct and indirect relations between men's psychological experiences during leisure time and health outcomes by introducing boredom during unstructured free time (henceforth referred to as boredom during free time) as the central analytic concept. A hypothesised causal model emphasises the mediator roles of meaningful activity, loneliness, and interest during unstructured free time, as well as the

moderating effects of loneliness and boredom during structured time in explaining individual, marital status, and age variations in boredom during men’s free time. Boredom during free time, in turn, is expected to uniquely predict time spent in inactive leisure activities, unhealthy lifestyle behaviours, and mortality risk when all known risk factors are statistically controlled. Figure 2 outlines the hypothesised causal model of boredom during free time and how boredom during free time is expected to predict time spent in inactive leisure activities, unhealthy lifestyle behaviours, and health outcomes. The mechanisms by which boredom during free time is influenced and, subsequently, expected to operate, are described in the following paragraphs.

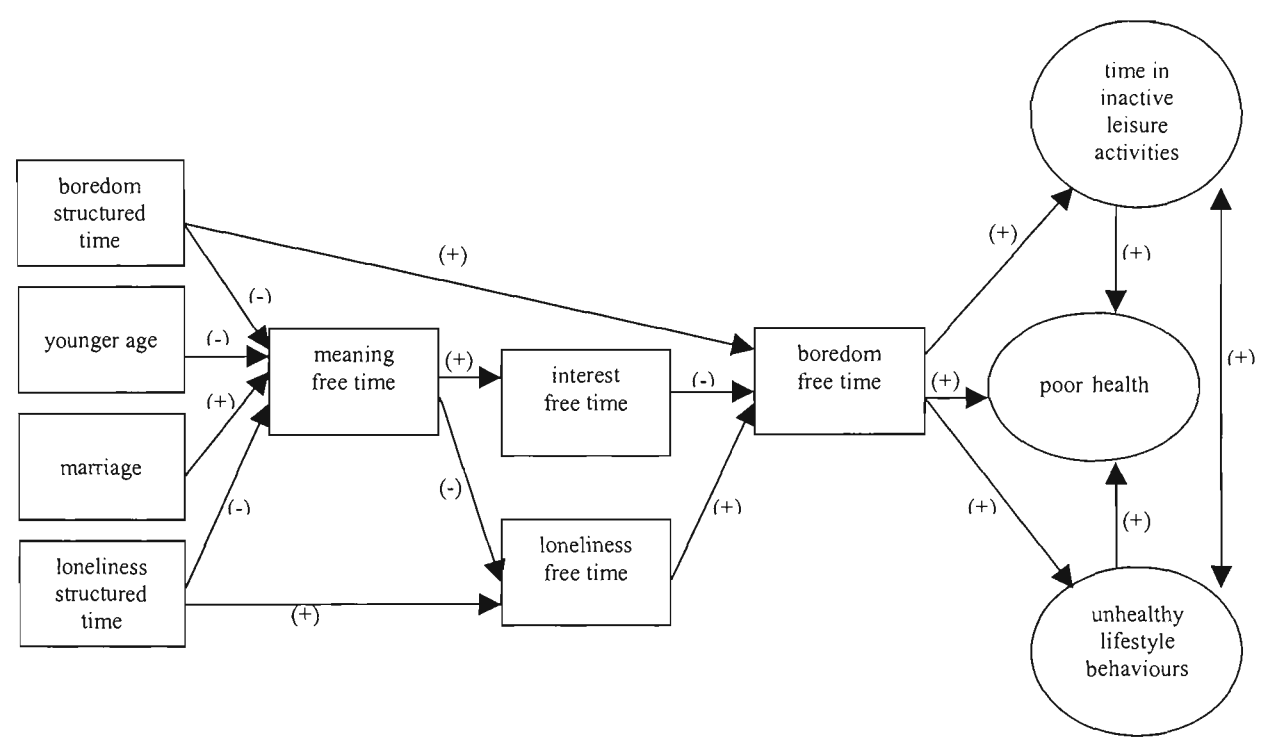


Figure 1
The Causal Model Predicting Boredom during Free Time and the Hypothesised Relationships among Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health

4.1.1 Structured and unstructured time

4.1.1.1 Definition of unstructured time

The terms ‘structured’ and ‘unstructured’ time have not been adequately defined. Plakans (1994) suggested that the terms respectively referred to “‘full’ and ‘empty’ time” (p. 110). Carpenter and Huston-Stein (1980) defined structured and unstructured time with reference

to the characteristics of certain activities. They argued that the degree of activity structure was dependent upon the extent to which rules or guidelines prescribing appropriate performance were imposed by external forces or immediate goal directed involvement. Robinson (1981) used the term 'obligatory' to describe the nature of activities characterised by organisation, planning, schedules, and deadlines. Bond and Feather (1988) and Feather and Bond (1983) tautologically defined time structure as the degree to which a person believes his or her use of time is structured and purposeful.

Although there has been very little empirical work in this area, Kelvin (1981) suggested that the "need for structure" (p. 8) was "inherent in the nature of man" (sic) (p. 10). The inherent functions time structuring serves are believed to include "the measurement of events and processes, ordering their chaotic flow for the benefit of human orientation or the coordination of social actions" (Sztompka, 1993, p.44). Human nature is such that people need to have "a sense of what lies ahead" (Hagestad, 1986, p. 680). Marris (1975) argued that "the impulse to define the predictability of life is a fundamental and universal principle of human psychology" (p. 3). Temporal ordering influences all human behaviour and attitudes by setting up 'background expectancies' of a normal life (Zerubavel, 1981; 1985). The very first thing people do in the morning on waking is to recall what day it is. People have a distinct set of expectations for behaviour for that particular day, as for every other day of the week, and for each block of time during each day. "The fairly regular temporal structure of our social life is responsible for the establishment of some solid temporal ground against which the occurrence of certain events and the presence of particular persons and objects pass as 'normal' and unnoticeable" (Zerubavel, 1981, p.21). At the collective level, temporal structuring is believed to facilitate social coordination. At an individual level, it allows people to plan, organise, segregate, prioritise and to balance activities (Zerubavel, 1981). When reference points are absent, the "'neat package' of time [becomes] problematic..." (Hendricks & Peters, 1986, p. 665). It has been hypothesised that a disorganisation of time, or temporal dysfunction, may precipitate disorientation, feelings of helplessness, and problems with mental health (Kielhofner, 1977).

4.1.1.2 Free time as unstructured time

An indication of the ways in which free or leisure time is characterised by a lack of structure can be found in qualitative studies that have investigated people who no longer have contracted time. These people include those who have withdrawn from the workforce - the unemployed and retired. In Jahoda's (1988) work with unemployed people, she described how an excess of free time was experienced:

Time had lost its meaning; there was nothing to look forward to, no hope and no planning for the future. When time had been structured through work, leisure had been fully used in a variety of voluntary organisations; unlimited time, not structured by successive events was experienced not as leisure but as emptiness (p. 157).

A similar theme emerged from Kay's (1989) description of unemployment:

During unemployment, more time is spent in the home, less social contact occurs, a feeling of purposelessness pervades, daily activities and the time-structure of daily life is eroded. As active pursuits diminish, time spent asleep increases, and waking hours are filled by watching television, reading the newspaper, and prolonging the few essential tasks of personal and household maintenance (p. 415).

Grossin (1986) observed similar problems with unstructured time in retired people:

More often than not, after a few months of euphoria, workers find it difficult to accept that they have irrevocably broken off ties with work. The withdrawal into family life may sometimes be a happy experience, but it may also be a painful one. It is often difficult to find other activities to replace work. Gardening or do-it-yourself may not fill the vacuum left by work. Life gets lost in time without structure or purpose. The illusion of happiness to be found in a life of leisure, without problems, obligations, plans or

dreams, quickly disappears, and boredom sets in. Free time, which has been looked forward to floats about them like a loose fitting shirt (p. 98).

Withdrawal from the workforce, whether voluntary or involuntary, through retirement or unemployment, delivers large amounts of free time. Unemployed people report problems filling in time and they spend long periods watching television or doing 'nothing in particular' (Fryer & McKenna, 1987; Hepworth, 1980; Kilpatrick & Trew, 1985; Warr, Banks, & Ullah, 1985; Winefield, Tiggemann, & Winefield, 1992). However, unstructured time may be a problem for many people, regardless of employment status. In the Americans' Use of Time Project (Robinson & Godbey, 1999) and the 1992 Canadian General Social Survey (Frederick, 1995), participants were asked how often they 'had time on their hands that they did not know what to do with'. In 1995, 35% of Americans reported that they 'only now and then' and 9% reported 'quite often' having time on their hands that they did not know what to do with. Five percent of the Canadian population aged between 15 to 64 years reported not knowing what to do with the time on their hands *every day*. In 1997, nearly 29% of Australians reported that they sometimes, often, or always had spare time that they did not know what to do with (Bloomfield & Gunthorpe, 2004).

The availability of unstructured time is demographically distributed. Frederick (1995) reported that unmarried and younger people were most likely to report frequently having time on their hands that they did not know what to do with. A larger proportion of men than women reported having time on their hands that they didn't know what to do with. In Australia, people who reported frequently not knowing what to do with spare time were significantly more likely to be male, unmarried, aged between 15 and 23 years, and unemployed (Bloomfield & Gunthorpe, 2004). British time-use data showed that 75% of men spend up to 10 hours per week doing absolutely nothing, compared with women who reported having no time to do nothing at all (Hartston, 1997). Feather and Bond (1983) developed a Time Structure Questionnaire (TSQ) that contained 17 items designed to measure the degree to which a person perceived his or her time to be structured in a purposeful way. The TSQ included questions such as, "Do you ever have trouble organizing the things you have to do?", "Do you ever find that time just slips away?", "Do you plan your activities from day to day?", "Do you tend to change rather aimlessly from one activity to another during the day?" They found that women scored higher than men on items

included in a factor labelled structured routine, and people who were unmarried, younger, unemployed, or employed part-time reported a significantly less structured use of time (Bond & Feather, 1988; Feather & Bond, 1983). Bond and Feather (1988) argued that these results highlighted the ways in which role demands affected the use of time: "...new roles that people assume as they move from adolescence into adulthood...such as getting married and finding a job, introduce new sets of purposes and routines in the organization of daily life" (p.327).

Emile Durkheim (1897) first highlighted that people tended to rely on society to provide structure and orderliness. People are very poor time managers and when social structures are absent, people prefer to 'fill time' with unstructured activities rather than 'using' time with structured activities (Mulgan & Wilkinson, 1995). Kubey and Csikszentmihalyi (1990) confirmed this by observing that many people, irrespective of their employment status, had difficulty filling leisure time, preferring to spend long periods watching television. Nearly one-fifth of subjects in their study reported watching television when they 'had nothing else to do'. Kubey (1986) argued that television provided structure to leisure time for people who lacked the necessary resources to supply structure on their own. Similarly, Csikszentmihalyi (1988) argued, "To fill the void in consciousness, people turn on the TV or find some other way of structuring experience vicariously" (p. 378). Consistent with this view, Robinson (1981; 1990b) found that free time availability was a strong predictor of television viewing. Adolescents in Shaw, Kleiber, and Caldwell's (1995) study readily indicated that television viewing was a response to a lack of places to go or things to do. In two Australian high schools, 62% and 51% of students respectively perceived that there was not enough to do during leisure time (Gordon & Caltabiano, 1996). Donald and Havinghurst (1959) interviewed 626 people in Kansas City, USA and 234 people in New Zealand about their reasons for engaging in their favourite leisure time activities. For 20% to 26% of interviewees, leisure activities 'made time pass'. Watching television and listening to the radio were activities that were frequently mentioned as making time pass. Participation in formal groups, such as social clubs, organisations, adult education classes, and church and discussion groups were less frequently mentioned as making time pass.

Most people in developed countries spend a large proportion of free time watching television, socialising, relaxing and thinking (ABS, 1997c; Frederick, 1995; Robinson, 1990a;

1990b; Robinson & Godbey, 1999; Statistics New Zealand, 2001). Americans spend an average of 15 hours per week watching television (Robinson, 1990a; 1990b). Australians spend an average of 14 hours per week watching television and videos, and when television viewing as a secondary activity is included, that time increases to over 19 hours per week (ABS, 1997c). In contrast, Australians spend only 4.9 hours a week on more structured activities such as organised sport and hobbies, arts, and crafts (ABS, 1997c).

The availability of unstructured free time may be increasing. Several analyses of time-use data have indicated that the amount of time people spend at work has decreased over time and leisure time has increased (Gershuny, 2000; Gershuny & Jones, 1987; Robinson, 1990c; 1991a; 1991b; Robinson & Godbey, 1996; 1999). Robinson (1991a) reported that increases in free time between 1965 to 1985 in the United States and between 1965 to 1986 in the USSR were associated with a commensurate increase in time spent watching television. Watching television is also becoming a substitute for a social life. For example, in America and in 12 European countries during 1965-1966, socialising outside of the home was the primary free time activity engaged in less often by owners of television sets relative to non-owners of television sets (Robinson, 1972). In America between 1965 and 1995, other than reading newspapers, socialising was the only other major leisure activity to show an overall decline in participation as time spent watching television increased (Robinson, 1981; Robinson & Godbey, 1999).

4.1.1.3 Gender differences in leisure time use

Men spend more time than women in passive leisure activities such as watching television and listening to the radio (ABS, 1992a; 1997c; Bird & Fremont, 1991; Cutler, 1990; Darcy & Veal, 1996; Firestone & Shelton, 1994; Frederick, 1995; Kabanoff & O'Brien, 1982; Kelly, 1983; Mercer, 1985; Nock & Kingston, 1989; Robinson & Godbey, 1999; Salmon et al., 2003; Shelton, 1992). Using time-use data from 20 countries, Gershuny (2000) showed that men in every country, except Belgium in 1965, spent more time than women did watching television and listening to music. Men also spend the most time on activities that involve leaving the home, such as going out for a meal, or a drink, socialising, and many forms of non-competitive sport and other games (Clarke & Critcher, 1985; Kabanoff & O'Brien, 1982). Roberts, Asturias, and Brodie, (1991) asked a sample of men and women to rank

their leisure activities in order of importance. Men ranked going out for a drink as the most important, followed by going out for a meal, and then sport.

Men, on average, spend the majority of free time engaged in passive leisure activities (ABS, 1997c; Frederick, 1995). In Australia in 1997, 59% of men's free time was spent on passive leisure activities, in comparison to social and community interaction (21%) and activities relating to sport, exercise, games, and hobbies (20%) (ABS, 1997c). However, age, and employment, marital and parental status affect men's free time availability. Younger and senior men, and single and unemployed men have the most available free time, and they spend the most time in passive leisure activities, socialising with friends, or combining both (ABS, 1997c; Bird & Fremont, 1991; Frederick, 1995; Gershuny, 2000; Mattingly & Bianchi, 2003; Robinson, 1981; 1990b; Salmon et al., 2003; Schneider, 1972; Thrane, 2000). Married men spend less time socialising with friends, but spend more time at home in the presence of family members in passive leisure activities, such as watching television, reading, and listening to the radio (Bird & Fremont, 1991; Schneider, 1972; Shelton, 1992). The presence of at least one child in the home reduces the amount of joint leisure time available to husbands and wives, and decreases leisure activities outside of the home and increases sedentary activities in the home such as watching television (Altergott & Cornell McCreedy, 1993; Horna, 1989; Orthner & Axelson, 1980).

Several studies have shown that during time families spent together at home, couples were unlikely to be doing the same activity. Mothers were engaged in household labour activities, whereas fathers were involved in leisure activities, namely watching television (Horna, 1989; Robinson, Converse, & Szalai, 1972; Schneider, 1972; Shaw, 1992). These leisure behaviour patterns for men are exemplified on Sundays, where employed fathers spend the longest periods of time watching television, while employed mothers perform domestic work (Zuzanek & Smale, 1999).

4.1.1.4 Structured and unstructured time and health

Studies that have investigated the impact of specific free time activities on health have shown that certain types of leisure activities generate sufficient health benefits and others impede health in ways that cannot be attributed to a person's level of physical exercise or

fitness. For example, increased time spent in activities such as watching television, reading, doing nothing in particular, idling and driving to pass time were associated with an increase in psychological symptoms among employed and unemployed adults (Warr, 1984; Winefield et al., 1992). Massimini and Carli (1988) reported that some people scored high on measures of anxiety and apathy while watching television, listening to music, reading and thinking. The results of nine time-use studies across five countries analysed by Kubey and Csikszentmihalyi (1990) showed that people reported lower levels of enjoyment, a lack of personal control and less concentration, as well as increased feelings of weakness and passivity while watching television than during any other activity, except for resting. Increased time spent watching television is associated with an increase in the risk of diabetes, obesity, and heart disease irrespective of fitness or physical activity levels, or the time spent exercising (Cameron et al., 2003; Hu, 2003; Hu et al., 2001; Jakes, Day, Khaw, Luben, Oakes, Welch, Bingham, & Wareham, 2003; Kronenberg, Pereira, Schmitz, Arnett, Evenson, Crapo, Jensen, Burke, Sholinsky, Ellison, & Hunt, 2000; Tucker & Bagwell, 1991; Tucker & Friedman, 1989). Therefore, physical exercise may be necessary, but not sufficient, to maintain health.

The structured nature of time may be more important, or at least, just as important to health as it deters sedentary behaviour by promoting general activity. Kubey (1986) and Kubey and Csikszentmihalyi (1990) investigated differences in affect between light and heavy television viewers during unstructured time (idle time, walking, sitting, standing, trying to sleep, lying in bed, and thinking) and during structured activities (work, cooking, cleaning, sewing, and hobbies). The results showed that there were no significant differences in affect between light and heavy viewers during structured activities. However, heavy viewers reported feeling significantly more hostile, sad, irritable and lonely than light viewers during unstructured activities. Hepworth (1980) asked 78 unemployed men whether each received sufficient unemployment benefits to meet financial commitments and whether time during unemployment was fully occupied. Multiple regression analysis showed that the perception that time during unemployment was fully occupied was the only significant predictor of mental health. Nineteen of 20 unemployed men in Swinburne's (1981) study stressed the importance of keeping busy to well-being. Warr (1984) reported a correlation of .55 between measures of problems with filling in time and psychological distress in a sample of 399 unemployed men.

In addition to unemployed people, the ability to organise and structure time predicts improved mental health for employed people and students (Bond & Feather, 1988; Feather & Bond, 1983). Jackson (1999) found that higher scores on the Time Structure Questionnaire (Bond & Feather, 1988) were stronger predictors of psychological well-being than were sociodemographic variables (age, years of education, income, prior mental health status) and measures of financial stress, social support and skill use. These results highlighted the strength of the influence of structured time on well-being even after important variables had been controlled for. The negative health effects of unemployment are attenuated when people engage in structured activities such as hobbies, voluntary and other work-related activities, study, domestic duties, as well as regular participation in sport and a wide range of active leisure pursuits (Kilpatrick & Trew, 1985; Miles, 1983; Swinburne, 1981; Warr & Payne, 1983). Participation in these types of activities is directly related to an increase in psychological well-being (Haworth & Ducker, 1991; Winefield et al., 1992).

4.1.2 Meaningful structured activity, boredom, and health

4.1.2.1 Meaningful structured activity and health

Evidence from studies that have investigated the negative consequences of unemployment has shown that meaningful time use during prolonged periods of unstructured leisure time may moderate the effect of activity on health. In Kaufman's (1993) study of retired people, goal directed activities that provided a sense of purpose and meaning to life were activities that made them feel socially useful. A number of unemployed people interviewed by Haworth and Evans (1987) reported active involvement in a number of work-like activities such as home improvements and study, or leisure based activities such as dancing and participation in competitive sports. These activities appeared to develop and mature over time and often led to a greater involvement in a number of related or unrelated activities or social interactions. Fryer and Payne (1984) found that people adapted to unemployment by being proactive. Many of the participants stressed the importance of structuring time with meaningful activities in line with personal goals, beliefs, and values.

Evans and Haworth (1991) conducted interviews with unemployed people in relation to any interests or activities that played a significant or important part in their lives. Independent

judges then rated each person's level of main activity. The unemployed sample was then divided into 'less active' and 'more active' groups based on the main activity scores. In comparison to the 'less active' group, the 'more active' group reported higher scores on a number of measures of mental health. The 'more active' group was also compared with a group of employed people. The results showed that the 'more active' unemployed group reported similar scores to the employed group on measures of psychological well-being and happiness. The types of meaningful activities that the more active unemployed group reported engaging in included sewing, watercolour painting, and computer correspondence. Bond and Feather (1988) reported that purposeful and structured time use were positively related to self-esteem, health, and optimism about the future, and were negatively related to depression, psychological distress, anxiety, neuroticism, physical symptoms, hopelessness, and anomie. Winefield et al (1992), in a study of unemployed and dissatisfied employees, showed that engaging in meaningful activities could reduce symptoms of depression, negative mood, and anomie associated with unsatisfactory employment.

Ball and Orford (2002) observed that there were some unemployed people who followed "exclusively social but aimless patterns of activity" (p. 389) and others who were able to engage in meaningful activity to some degree, but still felt as though time was not fully occupied. These people often participated in exercise routines as a way to structure and occupy time. People who engage in meaningful physical exercise experience improvements in psychological well-being, whereas people who exercise for external reasons do not receive any health benefits from exercise (Maltby & Day, 2001). Therefore, physical exercise is probably not as important to health as the conflation of structured and meaningful activity. For these reasons, the meaningful use of time may be worthy of investigation during the unstructured leisure time of men.

4.1.2.2 Definition of meaningful activity

Frankl (1969) argued that a search for meaning or "will to meaning" was a fundamental human motive. Johnson (1987) wrote that 'meaning' can be defined as understanding, "...regardless of whether we are talking about the meaning of someone's life, the meaning of a historical happening, or the meaning of a word or sentence" (p. 176). Baumeister (1991)

stated that this understanding of existence provides a reference or framework for living life and that 'meaning' directs and guides a person's existence.

Baumeister (1991) provided, by his own admission, a "rough" definition of meaning: "meaning is shared mental representations of possible relationships among things, events, and relationships. Thus, meaning *connects* things" (p. 15). He argued that people were constantly exposed to complex chunks of environmental information and meaning enables them to interpret the environment and adapt accordingly. In essence, meaning directs and motivates human action. "Without meaning, behavior is guided by impulse and instinct" (Baumeister, 1991, p. 18). Fidler and Fidler (1978) theorised about the ways in which purposeful action, as opposed to random activity, was necessary for human growth and adaptation.

A person's behaviour is determined by the meaning they ascribe to activity. The meaning of an action is its aim that is congruent with some goal or valued outcome. The person constructs the meaningfulness of the activity when the interpretation and understanding of that action is in line with an overall life goal. Leider (1997) argued that meaning "can serve as a coherent focus...[for people to] carry out daily activities while keeping their eye on a longer-range vision and purpose they want to center their lives around" (p. 31). An overall life goal "attracts us enough to move us to action on its behalf and is important enough so that focusing on it directs our activities and provides our lives with a sense of meaning" (p. 33). Csikszentmihalyi and Larson (1984) used the term 'life theme' to describe a "meaningful arrangement of goals and means" (p. 263). Having an overall life theme leads to having a purpose to fulfil and goals to strive for (Reker, Peacock, & Wong, 1987). Therefore, meaningful activity is created when the pursuit of a highly valued life-goal or project provides energetic focus to compel a person into action.

Meaningful activity has both subjective and objective aspects. Baird (1985) commented that the process of choosing a life-time goal or project would need to be created by the actor. "There is no way one can reach across the desk and simply hand out purpose" (p. 121). The objective component, Baird (1985) argued, was that the activity must be in accordance with a morally constructive goal or project. Gecas and Schwalbe (1983) described the objective component of meaningful action as the differential valuation of the context of action. That

is, certain goals, and the activities defined by those goals, are differentially valued according to the culture or community in which they are performed. The meaningfulness of the action would depend upon the value of the goal within its social hierarchy of importance. Most highly valued pursuits in developed countries are morally constructive, so it may be more appropriate to consider these two aspects as inclusive. However, in their research on the nature of meaningful activity for unemployed people, Haworth and colleagues (Haworth, 1986; Haworth & Evans, 1987) found that there was no *a priori* list of meaningful activities and no hierarchy of goal types. Instead, a meaningful activity was what individuals perceived as important to them. Thus, objective meanings may be viewed as intersubjective meanings that are given to activities within the context of the action (Gecas & Schwalbe, 1983).

4.1.2.3 Meaningful activity and boredom

Although research among unemployed people has advanced knowledge of meaningful activity and structured time, little is known about how meaningful structured activity contributes to health. Much of the work has been qualitative or has employed general measures of psychological well-being (Bond & Feather, 1988; Evans & Haworth, 1991). Evans and Haworth (1991) suggested that being generally active during unemployment might directly contribute to psychological health, while meaningful activity may preserve self-esteem. However, there is evidence from the psychological literature to suggest that boredom may mediate the relationship between meaningful activity and health.

The experience of boredom is common yet it remains an ill defined and poorly measured concept. Despite the effects of boredom on the health and behaviour of many people, it has received little research attention. Smith (1981) observed that only one paper per year was published on boredom. More recently that figure had risen to approximately four per year (Leong & Schneller, 1993).

It is widely accepted that boredom is a negative affective state (Harris, 2000; Mikulas & Vodanovich, 1993), although considerable controversy remains regarding its antecedents and consequences. Research has shown it to have situational, individual, cognitive, behavioural, and affective dimensions. The experience of boredom has been associated with monotonous and repetitive tasks that produce an inadequately stimulating environment

(Thackray, 1981; Zuckerman, 1979). According to this position, a person will act to maintain an optimal level of arousal. Therefore, when in an inadequately stimulating situation, a person will become bored and seek to increase arousal and reduce boredom. Mikulas and Vodanovich (1993) argued that to be bored, a person must *attribute* his or her low arousal to an inadequately stimulating environment. Other authors have suggested that certain situations may place constraints on people's behaviour, which may lead to boredom. For example, Fenichel (1951) argued that boredom "arises when we must not do what we want to do, or must do what we do not want to do" (p. 359). The central thesis is that people incorrectly attribute internally caused boredom to a deficit in the external environment (Fisher, 1993).

Monotony and boredom have also been associated with increased levels of distractibility and lower levels of enjoyment in performing tasks (Ahmed, 1990; Farmer & Sundberg, 1986; Leong & Schneller, 1993; Mikulas & Vodanovich, 1993; Smith, 1981; Watt and Blanchard, 1994). Green-Demers, Pelletier, Stewart, and Gushue (1998) argued that boredom was the antithesis of interest. The inability to stimulate or to entertain oneself, a concentration on the passage of time, and the perception that time is passing slowly have all been linked to boredom (Drory, 1982; Farmer & Sundberg, 1986; Joubert, 1984; O'Hanlon, 1981; Seib & Vodanovich, 1998; Vodanovich & Kass, 1990a; Watt, 1991; Watt & Blanchard, 1994). The degree to which a person dislikes the activity has also been shown to influence perceptions of boredom (Larson & Richards, 1991; Shaw, Caldwell, & Kleiber, 1996). Boredom in turn negatively affects people's creativity and the quality of their work output (Larson, 1990).

Sundberg, Latkin, Farmer, and Saoud (1991) argued that boredom was a state and boredom proneness was a personality trait. To measure a person's tendency to be bored, Farmer and Sundberg (1986) developed a 28-item Boredom Proneness Scale (BPS). It was designed to assess people's degree of "connectedness with [the] environment" and "ability to access adaptive resources and realize competencies" (Farmer & Sundberg, 1986, p. 10). The BPS measures constructs such as concentration, anxiety, repetition, monotony, stimulation, excitement, interest, restlessness, challenge, creativity, variety, and the ability to entertain oneself. Farmer and Sundberg (1986) found that people who had a tendency to be bored were characterised as amotivated, inactive, and disinterested. They also focussed on themselves and monitored their moods (Harris, 2000; Spacks, 1995).

Boredom proneness has also been associated with tiredness, drowsiness, and a lack of enthusiasm, restlessness, inactivity, and a need for environmental change (Barbalet, 1999; Larson & Richards, 1991; McGiboney & Carter, 1988; Zuckerman, 1979). It is also positively related to symptoms of depression (Ahmed, 1990; Blaszczynski, McConaghy, & Frankova, 1990; Farmer & Sundberg, 1986; Sommers & Vodanovich, 2000; Vodanovich, Verner, & Gilbride, 1991), loneliness and hopelessness (Farmer & Sundberg, 1986), anxiety, hostility and dysphoria (Sommers & Vodanovich, 2000; Vodanovich et al, 1991), frustration and anger (Larson & Richards, 1991), obsessive-compulsive symptomatology and somatization (Sommers & Vodanovich, 2000) and negatively correlated with positive affect (Vodanovich et al., 1991). Boredom proneness has been associated with reduced sociability, a decrease in the quality of adolescent peer relationships, and increased interpersonal sensitivity and shyness (Leong & Schneller, 1993; Maroldo, 1981; Sommers & Vodanovich, 2000; Watt & Vodanovich, 1999).

Boredom has a number of dimensions that are not totally understood or explained by the “bare-bones” definition that focuses on monotony and repetition (Todman, 2003, p. 147). Theoretical work has suggested that a relationship may also exist between a lack of meaningful activity and boredom (Csikszentmihalyi, 1975; Fiske & Maddi, 1961; Healy, 1984; Iso-Ahola & Crowley, 1991; Locke & Latham, 1990). For example, Healy (1984) wrote:

Because [people] have no intrinsic meaning or interest by and in themselves, things are boring...It seems to be a source of active irritation for human beings to be confronted by what has no meaning or interest for them (p. 61).

Early experimental research on the nature of boredom indicated that a lack of meaning associated with the task was a stronger predictor of boredom than was physical monotony (Landon & Suedfeld, 1969). Perkins and Hill (1985) found that tasks rated as either boring or interesting could be distinguished in terms of the degree to which the activities satisfied a person's set of motivational needs, such as order, dominance, change, endurance, and achievement. Some studies have found that setting goals reduces boredom (Locke & Bryan, 1967; Locke & Latham, 1990). When high school and college students were asked to provide a definition of boredom, 70% reported characteristics indicative of a lack of goals,

such as “when there is nothing to do” or “when you don’t know what to do” (Larson & Richards, 1991). The most frequent explanation for why students felt bored was because of “nothing to do or no one around” (Harris, 2000; Larson & Richards, 1991; Shaw et al., 1996). In a comprehensive analysis of the antecedents and experience of boredom, Barbalet (1999) argued that when a person is unable to find meaning in his or her actions or circumstances, then that phenomenon will be experienced through the emotion of boredom. Barbalet (1999) showed that under conditions of repetitive work or monotonous environments, people were able to avoid or overcome boredom when they constructed meaning for their actions.

Survey data have also suggested a relationship between a lack of meaning and boredom. Using principal factor analysis on a number of items designed to measure boredom among a sample of college students, Orcutt (1984) found that an item measuring meaning in life: “I feel that my life has a clear direction and purpose” loaded with three other items measuring general boredom: “In general, how often do you feel bored?”, “I’m always too busy to be bored”, and “I am bored more often than most other people my age”. More recently, Weinstein, Xie, and Cleanthous (1995) administered to a small sample of retirees the Purpose in Life Test (PIL) (Crumbaugh & Maholick, 1964) and the BPS (Farmer & Sundberg, 1986). The PIL was designed to measure the degree to which a person experienced existential vacuum, or meaningless or emptiness in their daily lives. The results showed that scores on the PIL and the BPS produced a large correlation of $-.75$. Retirees who did volunteer work for over 10 hours per week were significantly less bored than retirees who did voluntary work for less than 10 hours per week.

The structured and purposeful uses of time may both be related to boredom, but this research is new and the evidence inconclusive. Farmer and Sundberg’s (1986) Boredom Proneness Questionnaire includes items designed to capture a person’s structured and purposeful use of time, such as, ‘I often find myself at loose ends’, ‘I am often trapped in situations where I have to do meaningless things’, ‘Much of the time I just sit around doing nothing’, and ‘I often find myself with nothing to do – time on my hands’. Vodanovich and Watt (1999) administered the Time Structure Questionnaire (TSQ) (Bond & Feather, 1988) and the Boredom Proneness Questionnaire (BPS) (Farmer & Sundberg, 1986) to Irish and American students. The results showed that TSQ scores for the Irish students were highly

and negatively correlated with scores on the BPS. Multiple regression analyses of the five TSQ factors on the BPS scale found that the Sense of Purpose factor was the strongest predictor of BPS scores. Thus, in the sample of Irish students, reduced boredom proneness was associated with a structured and purposeful use of time. Similar relationships between the variables were found among the American students, although they were in the opposite direction to those found among the Irish students. For the American students, increased boredom was related to a structured and purposeful use of time. The American students also had significantly higher overall TSQ and BPS scores than the Irish students. The authors suggested that the relationships between purposeful activity, structured time, and boredom may be complex, and that the characteristics of the activities may be more important predictors of boredom. Alternatively, it may be that meaningful activity is necessary to reduce boredom when time structure is low.

4.1.2.4 The meaning of leisure activities

Havinghurst (1979) drew attention to the significance of meaningful activity in leisure time. Using principal component analysis, he found evidence for three groups of people who were 'successful users of leisure'. Successful users of leisure time sought to accomplish something, to engage in a challenging new experience, or they sought pleasure and fun from their leisure activities. Unsuccessful users sought to kill time, or to escape from the family in solitary activities such as reading, watching television, hunting, fishing, playing cards, watching baseball, and visiting relatives. Havinghurst (1979) observed that the majority of people in the unsuccessful users of leisure group were men.

Subjective evaluations have often been used to infer the types of meanings people attribute to leisure activities (Lawton, 1999). A large amount of research has been conducted in relation to the connotative and denotative meanings of leisure, particularly with respect to the meanings of leisure for women and among elderly people (Beard & Ragheb, 1980; Freysinger, 1995; Henderson, 1990; Lawton, 1993; Samdahl, 1991; 1992; Shaw, 1992). When people have been asked why they engaged in their preferred leisure pursuits, some replied that they liked the activities and leisure provided a chance to be creative. Other people replied that they wanted to relax, spend less time alone, kill time or recuperate from work and other demands, or to temporarily withdraw from the self and others (Bower, 1973;

Csikszentmihalyi & Kubey, 1981; Havinghurst, 1979; Kremer, Nelson, & Duncombe, 1984; Kubey, 1986; Lawton et al., 1987; Tinsley, Teaff, Colbs, & Kaufman, 1985). Such attributions are incongruent with the emotion of enjoyment that characterises the psychological experience of 'flow' (Csikszentmihalyi, 1990).

Few studies have directly asked people whether their leisure time activities were meaningful, or measured which activities were the most meaningful, and whether the meaningfulness of those activities was the factor that promoted health. In an analysis of meaningful family leisure, Thompson and Streib (1979) observed the ways in which family interaction led to increased meaningful leisure time activities, and how those two variables shaped future leisure behaviour. In a sample of stroke survivors, Morgan and Jongbloed (1990) found that although changes in leisure behaviour accompanied the loss of physical function, the quality of the survivors' relationships with their families was the strongest predictor of participation in meaningful leisure activities for 87% of the sample. Where the survivors were excluded from family leisure and social activities, they experienced greater difficulties establishing alternative meaningful leisure pursuits or deriving satisfaction from their leisure activities. Waters and Moore (2002), using survey techniques, asked employed and unemployed people to rate social and solitary activities along four dimensions of meaningfulness: satisfaction, perceived importance, goal achievement, and interest. The results showed that although employed and unemployed people differed in time spent on leisure activities and scores on measures of self-esteem and depressive affect, the meaningfulness of social activities was more beneficial to health than the actual frequency of participation in leisure activities.

When people were asked about what aspects of life they considered meaningful, relationships with family and friends, and love relationships were most frequently reported (DeVogler & Ebersole, 1980; 1981; 1983; DeVogler-Ebersole & Ebersole, 1985; Ebersole & DePaola, 1987; Ebersole & DeVogler, 1981). In elderly people, relationships with family members were particularly salient, and health was the second most important source of meaning (Ebersole & DePaola, 1987). For adult men and women, family relationships, love and marriage, and work were cited as the most important sources of meaning (Debats, 1999; DeVogler & Ebersole, 1981). In an investigation on the characteristics of social alienation and isolation, Glorieux (1993) found that regardless of the activity type, the most meaningful activities included partners or family members.

Leisure activities as a source of meaningful activity have been reported in only one study. Baum and Stewart (1990) asked 185 people to report their most meaningful life events. For men, the most commonly mentioned meaningful events were work (72%), love and marriage (61%), and independent pursuits (54%). For women, births of children (78%), love and marriage (77%), and work (72%) were the most common responses. No significant sex differences were found for the meaningfulness of work or love and marriage. Births of children were significantly more meaningful for women than for men, and individual pursuits were significantly more meaningful for men than for women. Therefore, sources of meaning vary according to people's developmental stages and roles, although relationships, particularly with family, are the most important. Love, marriage, and work are primary sources of meaning for most people. Births of children are meaningful for women but not for men. Individual leisure pursuits may be meaningful to some men, although they are cited as being meaningful less frequently than family and relationships. Thus, with a reliance on social institutions to define what it means to be a man in patriarchal societies, leisure activities may lack meaning for many men.

According to Jahoda (1981; 1982; 1984), by virtue of their inability to provide the manifest function of earning an income, leisure activities may not sustain meaningful activity to the same degree as paid work. Specifically, in Jahoda's view, paid work provides five essential latent categories of psychological experience that makes work meaningful. These are time structure, activity, social experience, collective purpose, and social identity or status. The extrinsic function of earning an income is what impels people into the institution of employment where they can gain access to those categories of experience. She added that there were other formal and informal institutions that may sustain meaningful activity, but not to the same extent as employment does because of the inability to earn an income within those institutions. In contrast to the evidence for the importance of structured meaningful activity for well-being, Jahoda (1986) further argued that people need a certain amount of unstructured time and passivity to create a leisure social setting that complements the structured nature of work. However, it is unknown whether a compensatory explanation for unstructured time holds true in the general male population where excess unstructured time and a lack of meaningful activity are most prevalent.

Although men report marriage and family relationships as meaningful, the degree to which the parental role is perceived as meaningful remains unclear. When men describe and define themselves, the worker role seems to be more important than the father role (Townsend, 1994; Willinger, 1993). Some researchers have found that in the context of marriage and family obligations, men assess a 'good father' on the basis of occupation, work performance and the ability to earn an income (Dempsey, 1988; Simon, 1995). Fitzgerald (1994) argued that our social structure seduces men "into believing being a good carer equals being a good provider. As a consequence, some men only view caring in terms of a provider role" (p. 4). On the other hand, in Cohen's (1993) qualitative study of 16 men, when asked to define a father's main responsibilities to children, only five men reported definitions that included the concept of 'providing'. The majority of men reported nurturing activities such as being affectionate, playful, emotionally supportive, and teaching children skills and values. Robinson (1977) reported that many men surveyed in the US derived much or great satisfaction from activities conducted with children and other family members.

4.1.2.5 Boredom during free time

If structured meaningful activity is necessary to buffer the negative effects of boredom during unstructured time, then it is not surprising that many people experience boredom during leisure. Robinson (1975) found that 46% of students in England and Wales reported being bored during spare time. Adolescents reported being bored while socialising with friends, watching television, playing sports and games, and during outdoor leisure activities (Caldwell, Darling, Payne, & Dowdy, 1999; Larson & Richards, 1991; Massimini & Carli, 1988; Shaw et al., 1995). In a study of unemployed people, Stokes (1983) reported that the majority experienced intense feelings of boredom and isolation, although an active social life could not alleviate the long periods of doing nothing and the feelings of boredom. During a study using experience sampling methodology, Farnworth (1998) found that young Australian criminal offenders reported being bored 42% of the times they were signalled, and of their total time, 57% was spent on leisure activities.

Although there is no empirical data to confirm the hypothesised links between meaningful activity and boredom during men's leisure time, interview data reported by Patrick (1982) indicated that people who were most likely to experience leisure boredom were those who

reported meaningless leisure activities. Iso-Ahola and Weissinger (1990) theorised that meaningful leisure activity may be important to relieve boredom and for the maintenance of health. Research has shown that men are significantly more likely than women to be boredom prone and to perceive leisure as boring (Caldwell et al., 1999; Gordon & Caltabiano, 1996; Iso-Ahola & Weissinger, 1987; McGiboney & Carter, 1988; Orcutt, 1984; Shaw et al., 1996; Sundberg et al., 1991; Vodanovich & Kass, 1990b; Wasson, 1981; Watt & Vodanovich, 1992; 1999). Vodanovich and Kass (1990b) and Watt and Vodanovich (1999) found that the sex difference in the need for variety and change in the environment accounted for why men were more bored than women.

4.1.2.6 Theoretical construct of leisure boredom

Iso-Ahola and Weissinger (1987) defined leisure boredom as “a negative mood or state of mind that reflects a mismatch between optimal experiences and the experiences that are actually available to the individual” (p. 358). According to this position, leisure boredom was a subjective perception that a person’s actual leisure experiences failed to satisfy his or her desired level of arousal. To measure a person’s tendency to perceive leisure as boredom, Iso-Ahola and Weissinger (1990) developed the Leisure Boredom Scale. The scale is comprised of 16 items each on a five-point Likert type scale. From their initial work with 134 adults, Iso-Ahola and Weissinger (1987) reported that an awareness of the potential satisfaction in leisure activities explained the largest amount of variance in leisure boredom ($R^2 = .30$). Other variables made smaller, albeit significant contributions to leisure boredom. These included leisure repertoire, leisure ethic, self-motivation, work ethic, leisure constraints, gender, and household income. The model explained 60% of the variance in leisure boredom. Borrowing from Deci’s (1975) theory of intrinsic motivation, the authors argued that people were intrinsically motivated to achieve optimal arousal by engaging in behaviours that provided psychological rewards such as feelings of self-determination and competence. Intrinsic motivation is the desire to engage in an activity for its own sake independent of any extrinsic rewards (Deci, 1975; Deci & Ryan, 1985; Ryan & Deci, 2000). Intrinsically motivated activities are ends in themselves rather than means to an end. Intrinsic needs of self-determination and competence are theorised to motivate behaviour (Deci, 1975; Deci & Ryan, 1985; Ryan & Deci, 2000). A lack of awareness of the benefits of leisure disrupted the intrinsic motivation process, which led to boredom.

In a subsequent study (Weissinger, Caldwell, & Bandalos, 1992), intrinsic motivation was conceptualised as a level of desire for intrinsic rewards. According to motivational theory, there were individual differences in people's awareness of their internal interests and needs (Deci, 1975; 1980; Ryan & Deci, 2000). 'Autonomy oriented' people initiate behaviours for intrinsic rewards, whereas 'control oriented' people are energised by external rewards. Furthermore, people differ in the importance placed on internal rewards (Deci & Ryan, 1985). People who place greater value on extrinsic satisfaction, such as money, fame, and material possessions are least likely to seek the rewards of self-determination and competence (Ryan & Deci, 2000). Except for the conceptualisation of intrinsic motivation, the second study was methodologically similar to the initial study. The strongest predictor of leisure boredom was the self-determination component of intrinsic motivation ($R^2 = .38$), followed by the competence aspect of intrinsic motivation ($R^2 = .05$). Taken together, these studies suggested that leisure boredom resulted when activities failed to satisfy basic human needs for determination (Deci, 1980; Iso-Ahola & Weissinger, 1987; Weissinger et al., 1992).

4.1.2.7 Leisure boredom and mental and physical health

Boredom during leisure is associated with reduced self-esteem and increased anxiety in students and adolescents (Caldwell, Smith, & Weissinger, 1992; Gordon & Caltabiano, 1996). Adults who reported being bored during leisure scored lower on self-report measures of physical and mental health than adults who were less bored during leisure (Weissinger, 1995). Time-use diary data collected by Haworth and Ducker (1991) on 22 young unemployed adults' affective assessments of daily activities showed that 71% of the responses recorded over a seven-day period were classified as 'boring'. The sample of unemployed adults had significantly lower scores on a number of measures of psychological well-being than a comparable group of employed young adults.

Research on the causal pathways between leisure boredom and health is still in its infancy. If boredom during leisure plays a role in men's health, the paths may be complex. Direct biochemical pathways may be present, as boredom is theorised to be a stressful experience that may directly induce illness (O'Hanlon, 1981). However, experimental and field studies have shown that boredom is inversely related to stress symptomatology, such as neuroendocrine activity, heart rate, and oxygen consumption (O'Hanlon, 1981; Thackray,

1981). Thackray (1981) concluded from his review that, “the belief that boredom and monotony per se are stressors appears to be based more upon myth than upon the available data” (p. 174). Bryant and Zillmann (1984) described boredom and stress as two constructs on opposing ends of a continuum. In support of that claim, their research showed that under experimentally induced conditions of boredom and stress, bored people had significantly lower single-item stress scale scores than stressed people, and stressed people reported significantly lower single-item boredom scale scores than bored people.

According to the Leisure Boredom model (Iso-Ahola & Weissinger, 1987; Weissinger et al., 1992), people who are bored during leisure will act to optimise arousal. Of the limited theoretical and empirical work that has been done on coping with boredom, the evidence suggests that people avoid boredom by keeping themselves entertained (Hamilton, 1981; McBain, 1970; Watt & Blanchard, 1994). It appears that any activity that made time appear to pass more quickly was sufficient to increase arousal and relieve boredom (McBain, 1970). Other strategies include forcing attention on the task, seeking stimulation from a concurrent task, or changing the activity (Fisher, 1993; Kishida, 1977). The conclusion to this body of literature is that boredom is likely to instigate behaviour to remedy the aversive state (Fisher, 1993). Therefore, if people *do things* when they are bored during free time, they may engage in leisure behaviours that serve only to structure time vicariously. For example, Csikszentmihalyi (1988) argued that people used television to cope with boredom during unstructured time, and Harris (2000) reported that when students were bored, they engaged in a number of leisure activities such as reading, socialising, and watching television.

Lifestyle risk factors, such as alcohol consumption, may mediate the relationship between boredom and health, although this hypothesis has not been directly tested. Data from the 1997 Australian Time-Use Survey showed that people who reported frequently having spare time that they did not know what to do with spent significantly more time drinking alcohol and smoking cigarettes during free time when they spent more time in passive leisure (Bloomfield & Gunthorpe, 2004). McHugh, Beckman, and Frieze (1979) found that a substantial proportion of respondents in surveys reported drinking alcohol in order to ‘kill time’ or because of ‘nothing to do’. Berg and Neulinger (1976) reported that in comparison to non-alcoholics, alcoholics perceived themselves as having significantly more leisure time, and that time was rated as significantly less active, more empty, undesirable, uninteresting,

unpleasant, unnecessary and meaningless. In other studies, adolescents who frequently used drugs, alcohol, and tobacco were significantly more bored during free time than adolescents who did not use substances (Caldwell & Smith, 1994; Gordon & Caltabiano, 1996; Iso-Ahola & Crowley, 1991; Smith & Caldwell, 1989). Orcutt (1984) found a positive relationship between boredom and frequency and quantity of alcohol consumption among college students. Existential boredom (lack of purpose) was related to increased frequency of alcohol use, and boredom in the company of other people increased the quantity of overall alcohol consumption.

4.1.2.8 Boredom during free time and the construction of masculinity through leisure and alcohol consumption

Although boredom may be related to leisure and/or lifestyle risk factors, the research that has found associations between these variables remains largely atheoretical. The current research posits that men's leisure activities may be behavioural contexts where masculinity is socially constructed and reconstructed. Some activities facilitate the reconstruction of masculinity via the activity itself, whereas masculinity is expressed during other activities with the use of alcohol. When free time fails to provide men with meaningful structured leisure activity, men may become bored during leisure and fill unstructured time with behaviours that are associated with alcohol consumption. In other words, the time men spend in leisure activities may be involved in the relationship between boredom during free time and the frequency and volume of alcohol consumption.

For example, sport, particularly football, is a hegemonic masculine activity in Australia and other patriarchal societies (Bryson, 1983; 1987; Mills, 1997). Sport exemplifies toughness, competitiveness, aggression, skill, and power (Connell, 1995; Veal & Lynch, 2001). Sport is an arena where not only is masculinity constructed, but it is also preserved through women's exclusion. Men resist women's entrance into competitive sport (Dempsey, 1990) and promote its violent and aggressive nature as a means of reinforcing women's exclusion. Women are excluded from sport at political levels. One example is the way in which men's sport is funded and televised disproportionately to women's sport, and the gap between male and female sports coverage has widened over time (Veal & Lynch, 2001).

Men also use sport to appropriate women's labour. Delphy and Leonard (1992) described the ways in which women directly assist men, or it could be argued, directly enable men, to participate in active leisure pursuits. Men who play active sports rely on women to clean uniforms and to prepare goods and organise stalls for fund-raising for the community organisations they are involved in. During Dempsey's (1990) analysis of urban Australia, he similarly found that women's inclusion to men's sport amounted to nothing more than being supporters or subordinates whose domestic skills were used to prepare refreshments and to organise fund-raising activities.

Alcohol consumption is equated with the dominant masculinity. Men's alcohol consumption is highly involved in the sexual harassment and denigration of women and transient sexual encounters with women (Broom, Byrne, & Petkovic, 1992; Kirkby, 2003; Wedgwood, 1997; West, 2001). Alcohol use is also highly associated with men's aggressive behaviour, sexual assault against women, and homicide (Graham, Leonard, Room, Wild, Pihl, Bois, & Single, 1998; National Institute on Alcohol Abuse and Alcoholism, 1997; 2003; Norström, 1998).

Men negotiate subordinate masculinities through various alcohol-related games, such as bantering and joking with other men (Wedgwood, 1997; West, 2001), alcohol-related violence against other men (Graham et al., 1998; White, 1997), labelling with insulting nicknames (Wedgwood, 1997; West, 2001), and competitive bar-room and drinking games (West, 2001). Men reward and 'worship' each other for drinking alcohol and for being drunk (Wedgwood, 1997). Reasons for drinking vary according to the type of beverage, but generally, men attribute alcohol consumption to sociability, celebration, relaxation, or to get drunk (O'Callaghan & Callan, 1992; Wilks & Callan, 1990). West's (2001) masculinist analysis of drinking behaviour in a US fraternity and the US Navy highlighted the ways in which the relaxation and sociability factors associated with men's alcohol use related to the facilitation of recreational, non-relational sex with women. Binge drinking and intoxication are ways to demonstrate toughness and to prove one's place in the dominant masculinity (Wedgwood, 1997; West, 2001).

The Australian notion of 'mateship' is tied up with men's social activities that are usually centred on alcohol consumption during leisure. People report drinking alcohol in group

settings in public places as part of their social activities and sociability is the main reason for heavy drinking (Larson & Kleiber, 1992; Maggs, 1997; Nyström, 1992; O'Callaghan & Callan, 1992; Wilks & Callan, 1990). The highest proportion of men's drinking events occurs with other men (O'Callaghan & Callan, 1992; Wilks & Callan, 1990). Men's alcohol consumption, particularly heavy drinking, is most likely to occur during free time, such as during the evening hours and on weekends rather than during weekday mornings and afternoons (Single, 1985; Single & Wortley, 1993; Wilks & Callan, 1990).

Australia and other patriarchal societies have a gender-segregated leisure drinking culture in pubs, bars, and taverns (Kirkby, 2003; Summers, 1975). A small body of research on the social contexts of alcohol consumption has indicated that the gender-segregated leisure drinking culture may be the most important influence on men's drinking behaviour and health outcomes. These studies have found that a high proportion of men's total alcohol consumption occurs at bars, pubs, and taverns. The smallest proportion of men's total alcohol intake occurs during sports activities, or when attending a club, organisational meeting, concert, or sports event (Clark, 1985, 1988, 1991; Holyfield, Ducharme, & Martin, 1995; Knibbe, Oostveen, & van de Goor, 1991; Kunz & Graham, 1996; O'Callaghan & Callan, 1992; Single & Wortley, 1993; Stockwell et al., 1993; Wilks & Callan, 1990). Alcohol consumption in bars and taverns is higher for single, separated, and divorced men than married or widowed men and women. High education and being employed moderate the effects of drinking venue on alcohol consumption patterns, although these factors have less influence when analysed multivariately with age and marital status (Fisher, 1981; Okraku, 1998; Single & Wortley, 1993).

Alcohol consumption in bars, pubs, and taverns is associated with higher total alcohol consumption and a greater frequency of episodes of intoxication and binge drinking (Casswell et al., 1993; Holyfield et al., 1995; Single & Wortley, 1993). Drinking alcohol in a group of two or more males is associated with hazardous and harmful drinking for men (O'Callaghan & Callan, 1992).

Not only is drinking in bars and taverns problematic for overall alcohol consumption, but it is also related to self-reported alcohol-related harm. The association between drinking in public places and alcohol-related harm is stronger for men than for women, and is

moderated by age and marital status. Thus, relative to other sociodemographic groups, younger unmarried men drink alcohol in pubs, bars, and taverns more often and consume a greater proportion of their overall alcohol intake at these premises. They also engage more often in heavy drinking, including binge drinking and intoxication, and experience a higher number of alcohol-related problems (Casswell et al., 1993; Kunz & Graham, 1998; Single & Wortley, 1993; Stockwell et al., 1993). These include problems with friendships or social life, physical health, happiness, home life, work or study; and financial situation, as well as an increase in self-reported injuries, fights, and time off work. Patrons of hotels, pubs, and nightclubs have the highest rate of drunk-driving offences and traffic accidents (Stockwell, Somerford, & Lang, 1991). A review conducted by O'Donnell (1985) found that over 50% of drink drivers had previously been at licensed premises. Australian Coroner data showed that 59% of alcohol-related accident victims had been drinking at a hotel or club prior to the accident (Peberdy, 1991).

Clearly, pub, bar, and tavern use are important factors in men's alcohol consumption patterns and well-being. However, few researchers have offered any theoretical explanations for the associations. One exception is Okraku (1998), who, using data from the US General Social Surveys between 1988 to 1993, developed and tested a causal model for tavern use. The model specified the direct and indirect effects of sex, age, marital status, education, employment, religious involvement, morality, frequency of spending time with friends, and a crude measure of drinking status (abstainer; social drinker; excessive drinker) on tavern use. The results showed that the reasons why younger and unmarried people tended to use pubs, bars, and taverns could be explained by their frequency of spending time with friends. This study highlighted the need for future hypotheses to be generated around the sociable nature of younger men's alcohol consumption. This is consistent with Single (1985), who argued that the purpose of pubs, bars, and taverns is not just for people to drink, for if it was, then fewer people would patronise them as it is much cheaper and more convenient to drink at home. The lack of attention to the functional aspects of public drinking in previous research is surprising given the social nature of alcohol consumption.

With its focus on pubs, bars, and taverns, research on the social contexts of alcohol consumption has tended to overlook the fact that the largest proportion of men's total alcohol consumption occurs within home-based leisure settings (Holyfield et al., 1995; Kunz

& Graham, 1996; Single & Wortley, 1993). Married and older men tend to consume a larger share of their total alcohol intake while spending a quiet evening at home (Kunz & Graham, 1996; Single & Wortley, 1993). Men who consume larger amounts of alcohol at home are highly likely to be heavy drinkers and to frequently engage in binge drinking and become intoxicated (Holyfield et al., 1995; Single & Wortley, 1993). Time-use data have also shown that drinking alcohol is frequently cited as a secondary activity to television viewing, but people who watched the most television cited drinking alcohol as the primary activity (Kubey & Csikszentmihalyi, 1990). Using survey-based methods, Tucker (1985) found that increased time spent watching television was associated with an increase in overall alcohol consumption. Australian college students who more frequently participated in home-based leisure activities (watching television and reading) reported consuming a greater number of alcoholic beverages on any one occasion (Iso-Ahola & Hayllar, 1994). Relationships between television viewing and other lifestyle risk factors have been reported from time-use data. Nearly 35% of activity accompanying television viewing consists of cigarette smoking and eating (Kubey & Csikszentmihalyi, 1990). The incidences of cigarette smoking, alcohol consumption, and over-eating are proportionally higher while viewing television than they are in conjunction with any other daily activity (Kubey & Csikszentmihalyi, 1990).

The links between masculinity and alcohol consumption may be particularly salient for Australian men. A number of social commentators and analysts have described the distinctive, but not necessarily unique, features of Australian leisure. Many authors agree that the Australian way of life is hedonistic and leisure has primacy over work (Caldwell, 1977; Conway, 1978; Fiske, Hodge, & Turner, 1987; Horne, 1964; Terrill, 1987). They demonstrate convincingly that sport and alcohol consumption in public bars and hotels feature prominently in Australia's leisure culture and national identity. Alcohol use, particularly beer drinking, has formed part of the Australian national identity since the birth of the colony (Caldwell, 1977; Kirkby, 2003) and Australians have an international reputation as hard drinkers (Fahey, 1992). Cyril Pearl declared in 1969 that, "Beer is a religion in Australia" and "that Australians are the greatest beer drinkers in the world" (pp. 1-8). In 1996 Australia was ranked ninth in the world in terms of beer consumption and ranked twentieth in the world in terms of per capita consumption of total pure alcohol. Australia had the second highest per capita consumption of absolute alcohol of the English speaking nations after the United Kingdom (AIHW, 1999b).

Australian culture equates the dominant masculinity with alcohol consumption. Fahey (1992) wrote, “[The Australian] attitude to alcohol has always been one of social necessity wherever one or more men are gathered together, rather than as a pleasant addition to the mealtime table” (p. 70). Australian society sanctions heavy alcohol consumption for men but condemns the same behaviour for women (Kirkby, 2003; Summers, 1975). It was considered acceptable in the 1940s and 1950s for women and children to wait outside on the footpath or in the car while Dad went into the pub for a drink with his mates (Kirkby, 2003). Horne (1964) saw drinking as a test of manliness in the Australian context and pointed out that, “Men stand around bars asserting their masculinity with such intensity that you half expect them to unzip their flies” (p. 36).

Australia’s colonial history played an important role in the development of the contemporary Australian male character and drinking behaviour (Conway, 1978). Early Australia was very much male-dominated because of a lack of women. Entertainment was limited and alcohol played a prominent role as a social catalyst (Fahey, 1992). Public houses flourished and became the focal point for Australian men to meet and drink together (Conway, 1971). According to McGregor (1966), drinking in public houses “allowed men to indulge in the mateship ritual which has been one of the persistent motifs in Australian history” (p. 134). Mateship and pub culture was associated with drunkenness, boorish and uncouth behaviour, raucous laughter, jokes, banter, and singing (Fahey, 1992; Kirkby, 2003). The concept of mateship clearly did not extend to women, indigenous Australians, and non-European immigrants (Encel, 1971, cited in Kirkby, 2003). Getting drunk was associated with the ‘good life’ (McGregor, 1966). The ‘shout’ system in male drinking culture, where everyone is expected to pay for a round of drinks, was hatched in pubs (Fahey, 1992). This drinking rule facilitates quick and excessive consumption, as the group tends to drink at the rate of its faster and heavier drinker.

Since the 1960s, the leisure patterns of Australian men have changed. With increasing urbanisation – Australia is one of the most urbanised nations in the world - leisure in Australia has become more home-based. Home ownership, television, and the motor vehicle have increasingly shaped the leisure behaviour of Australians (Mercer, 1994). We have become what Mercer (1994) describes as a spectator society. Sport remains a central feature of Australian leisure, but the majority of Australians are spectators in sport, rather

than participants. While Australian men's love of beer has not waned, there has been a slight movement away from public drinking places. We now have drive-in bottle shops and the home brewing of beer has increased (Fahey, 1992). Advertising now emphasises the portability of beer in cans and bottles, called stubbies (Kirkby, 2003). Despite an increase in women's patronage of pubs and bars and rising rates of alcohol use and abuse among Australian women, female beer-drinking has never been popularised as part of the Australian culture (Summers, 1975). Beer advertising in Australia continues to depict beer drinking in sex-specific nationalistic terms (Turnbull, 1993).

4.1.3 A mediator model of meaningful activity, interest, and loneliness on boredom during free time

4.1.3.1 Meaningful activity, interest, and boredom during free time

Although the Leisure Boredom Scale has been shown to be valid and reliable (Gordon & Caltabiano, 1996; Iso-Ahola & Crowley, 1991; Iso-Ahola & Weissinger, 1990; Wegner, Flisher, Muller, & Lombard, 2002; Weissinger et al., 1992), the global nature of the scale items may not be tapping into some idiosyncratic features of leisure boredom. Time-use research has identified that ratings of boredom and intrinsic motivation differ across and within leisure activity types. For example, adolescents reported being more bored during social activities than during other leisure activities (Caldwell et al., 1999). Gordon and Caltabiano (1996) found that students who spent more time in passive leisure activities were more bored than students who spent more time on social activities. Criminal offenders were more likely to experience boredom when engaged in passive leisure activities, and were least likely to be bored during active leisure (Farnworth, 1998). ESM data showed that passive leisure activities were described as intrinsically motivating slightly more often than active leisure and socialising activities (Graef et al., 1983; Mannell et al., 1988), and ratings of intrinsic motivation varied within the same activity episode (Graef et al., 1983). While these data offered rich opportunities for analysis, they typically were excluded and not interpreted (Caldwell et al., 1999; Graef et al., 1983). These findings suggest that it is not just a lack of desire for intrinsic rewards that predicts leisure boredom. Leisure boredom may be dependent upon factors other than the personality disposition of the actor.

The analytic strategy of using standard multiple regression to test the leisure boredom “model” (Iso-Ahola & Weissinger, 1987, p. 360) presupposed that all independent variables directly affected the dependent variable (Pedhazur, 1997). However, as the review has demonstrated, the theoretical framework’s conceptualisations of intrinsic motivation and boredom are problematic. More contemporary theories have posited a mediator model that conceptualises intrinsic motivation as the actualisation, anticipation, or seeking of the experience of ‘interest’, and specifies the direct and indirect mechanisms by which interest may be increased (Harackiewicz & Sansone, 1991; Sansone & Smith, 2000).

Interest is defined as a being absorbed and engrossed in an activity. It has both an affective component (‘feeling like doing the activity’) and a cognitive component (‘wanting to do the activity’). At one extreme, intense focus and involvement in an activity may approximate a state of ‘flow’ (Csikszentmihalyi, 1990), and at the other extreme, deprivation of absorbing interest may lead to boredom (Hamilton, 1981; Sansone & Smith, 2000). It is unknown whether intrinsic motivation, self-determination, and interest are three separate constructs. It has been argued that they may be conceptually similar (Renninger, 2000). ESM time-use researchers have measured intrinsic motivation using the same defining features of interest. For example, in some studies, respondents were asked to indicate the reasons for engaging in an activity. Possible responses were, ‘I wanted to’, ‘I had to’, and ‘I had nothing else to do’. They were also asked whether they had wished to be doing something else. Responses containing both ‘I wanted to’ and ‘Not wishing to be doing something else’ were classified as intrinsic motivation (Graef et al., 1983; Haworth & Ducker, 1991; Haworth & Hill, 1992; Kubey & Csikszentmihalyi, 1990). Other studies have utilised the response of ‘I wanted to’ to measure self-determination (Caldwell et al., 1999; Caldwell & Weissinger, 1994).

Although the defining features of intrinsic motivation and interest are similar, the theoretical orientations of the leisure boredom and the self-regulation models differ. The leisure boredom model assumes that intrinsic motivation is a stable personality trait whereas the self-regulation model specifies under what conditions interest may be heightened. According to the self-regulation model (Figure 2), interest is the product of the characteristics of a person, the goals a person brings to an activity, and the value or importance a person places on goal achievement (Sansone & Smith, 2000). Goals may have multiple determinants, which may be moderated by a number of factors including the social

context and the characteristics of the activity being performed and personality variables associated with the actor (Barron & Harackiewicz, 2000).

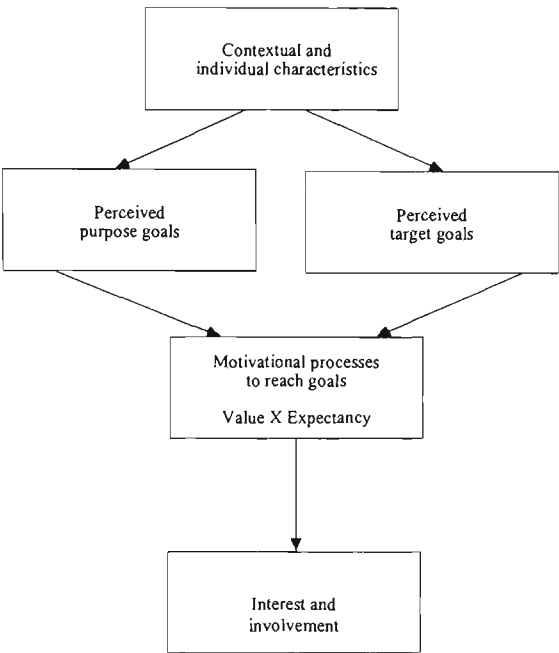


Figure 2
Sansone and Smith’s (2000) Self-Regulation Model of Intrinsic Motivation

Sansone and Smith (2000) argued that the levels of goals that orient performance in an activity are target goals and purpose goals. Purpose goals refer to the reason for engaging in an activity, which are likely to reflect higher order purposes. Target goals reflect what was to be achieved from task participation. The goals adopted in any given situation may be external or internal to a person, and may reflect differences in a person’s situation or personality disposition. Thus, the effect of purpose and target goals on intrinsic motivation can be moderated by contextual and/or personality factors.

Goal congruence is another key determinant of interest. If goals are congruent with each other, or if goal-relevant behaviours are not constrained by the environment, interest will be maintained, or heightened (Sansone & Smith, 2000; Sansone, Sachau, & Weir, 1989). On the other hand, interest will be low and boredom will persist in people whose purpose goals and target goals are incongruent with each other, and in people whose environment may constrain involvement in interesting activities. For example, if a man has an interpersonal leisure time goal, but the situation and environment impede personal communication with others, then interest during leisure will be adversely affected.

Similar to other expectancy-value formulations of motivation, the model proposes that the degree to which people value goals and believe goals are achievable determine the experience of interest. Thus, goals differ in their motivating potential across and within individuals. For example, two people may have the goal of attaining an academic qualification, but the person who valued the goal more highly would experience greater interest and involvement.

The self-regulation model of motivation has been primarily based on research that has identified the motivating influences of desired outcomes such as achievement (Elliott & Church, 1997; Elliott & McGregor, 1999; Sansone & Smith, 2000). Thus, higher order purpose goals were always present, and the motivation for engaging in those activities in an interesting way was initially high. Although these studies have made a substantial contribution to the literature by specifying how performance goals enhance motivation, the research framework has largely ignored that many everyday tasks are unrelated to achievement, and particularly for leisure activities, are unenjoyable or perceived as boring (Caldwell et al., 1999; Juster, 1985; Larson & Richards, 1991; Massimini & Carli, 1988; Robinson, 1975; Shaw et al., 1995).

Several studies have tested the self-regulation model of interest under everyday conditions, such as during recycling of waste (Werner & Makela, 1998), in sports training (Green-Demers et al., 1998), in social encounters (Isaac, Sansone, & Smith 1999), and during boring tasks (Sansone, Weir, Harpster, & Morgan, 1992). These studies have indicated that for everyday activities, the concept of meaningful activity may be a more important predictor of interest and motivation than evaluations of performance. For example, in a number of empirical studies students were asked to engage in a series of boring tasks (Sansone et al., 1992; Sansone & Smith, 2000). Some of the students were led to believe that the tasks were either good for their health or for the benefit of others. The results showed that in comparison to others, the students who perceived a reason for their actions reported greater interest in the tasks. In Werner and Makela's (1998) study, people who reported experiencing the most interest in waste-recycling activities were those who reported a personal sense of satisfaction from helping the environment. Figure skaters were more likely to increase interest during 'less interesting' tasks when they perceived sufficient variety was present during the tasks, and when they had personally valid reasons to continue with the tasks (Green-Demers et al., 1998). Interest in a task increases when other people are present

for people who report interpersonal goals as highly salient and important (Isaac et al., 1999). Ball and Orford (2002) found that people reported increased opportunities for self-determination and feelings of competence when they perceived their activities as personally meaningful. These results suggest that actively creating personal meaning to create positive phenomenal experiences may be important for the development and maintenance of interest during leisure time.

In summary, the model hypothesises a relationship between lower levels of meaningful activity and higher levels of boredom during men’s free time, which is mediated by lower levels of interest during free time. More specifically, the less meaningful a leisure time activity was, the less interesting it would be. In turn, lower interest during free time would increase boredom during free time. Increased boredom during free time would directly predict increased time in inactive leisure activities that are associated with lifestyle risk factors, and would directly worsen health. These paths are highlighted in Figure 3.

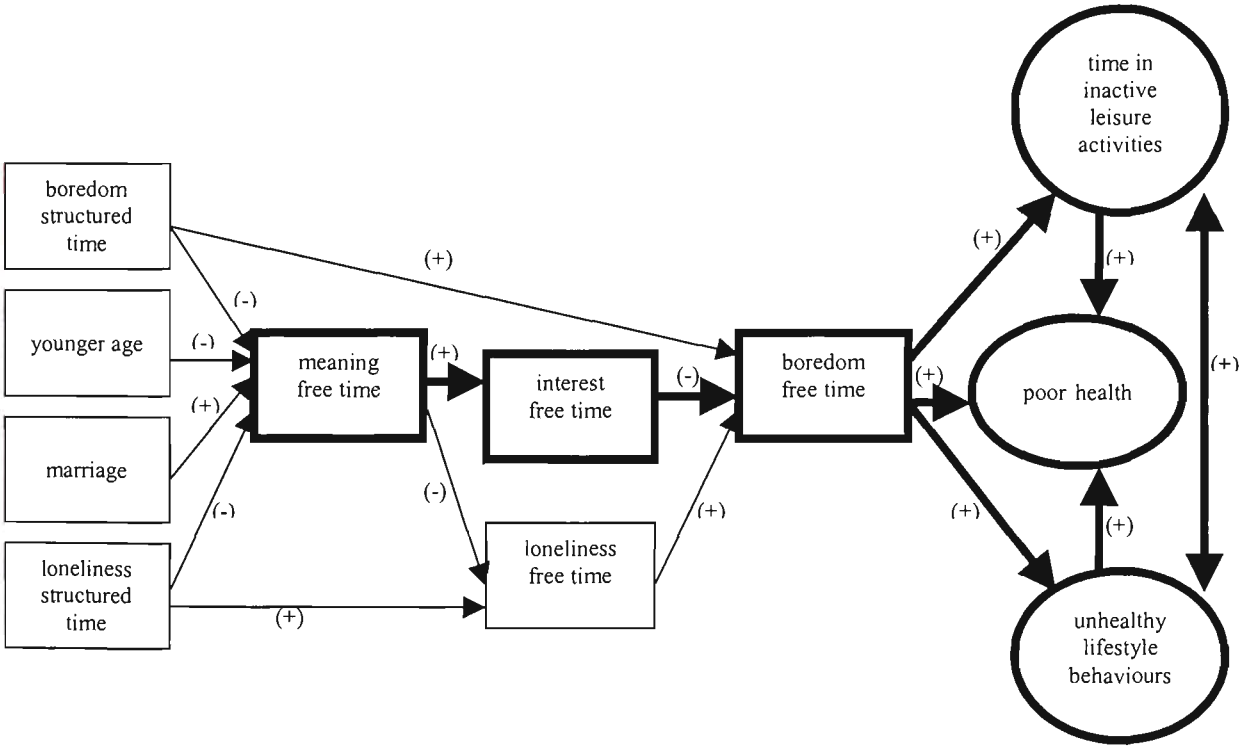


Figure 3
The Hypothesised Relationships among Meaningful Activity during Free Time, Interest during Free Time, Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

4.1.3.2 Marital status and meaningful activity during free time

A factor hypothesised to moderate the effect of meaningful activity on interest during free time is marital status. Figure 4 highlights these paths.

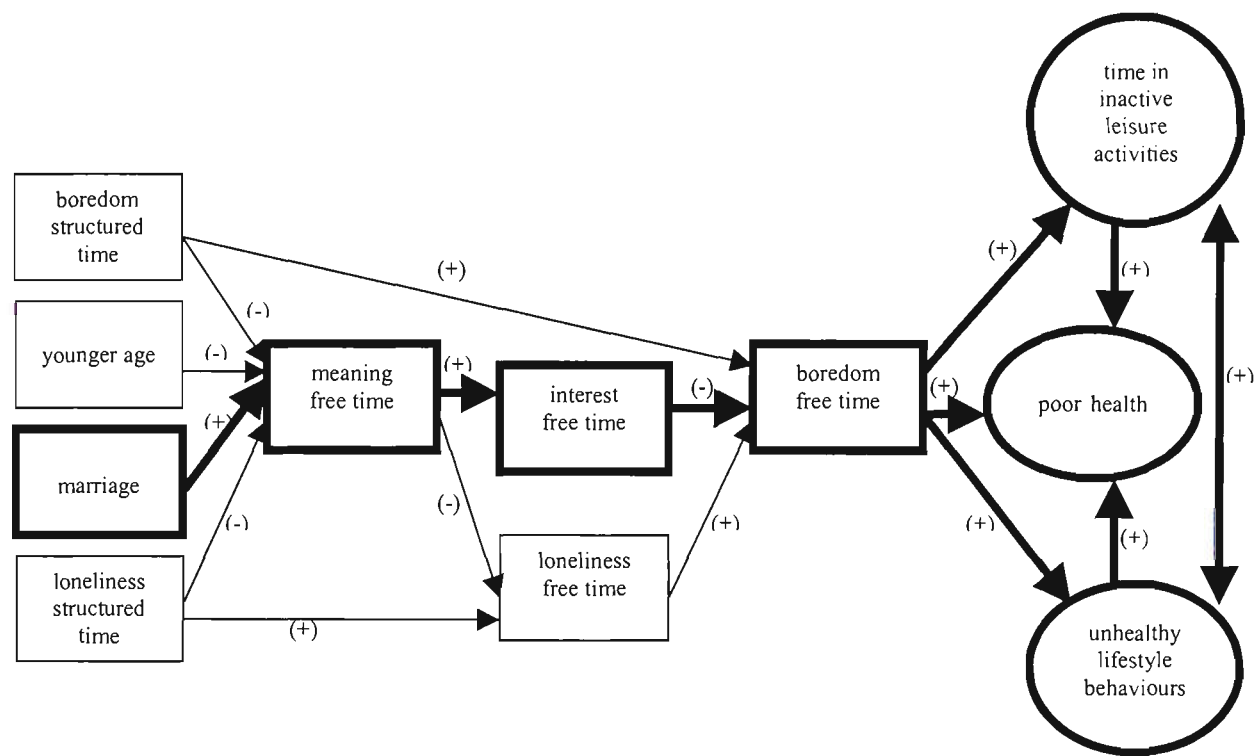


Figure 4
The Hypothesised Relationships among Marital Status, Meaningful Activity during Free Time, Interest during Free Time, Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

Research on gender differences in friendships and social networks has shown a clear sex difference in what was needed from interpersonal relationships. Men are more likely than women to consider their spouses as best friends and have fewer close friends outside of the marital relationship (Antonucci & Akiyama, 1987; Corney, 1990; Dykstra, 1995; O’Neil, Lancee, & Freeman, 1985; Rubin, 1984; Tornstam, 1992; Umberson, Wortman, & Kessler, 1992; Williams, 1985). More men than women believe that with a partner, life in general is more meaningful and full (Dykrstra, 1995). In reviewing the literature on social needs associated with marriage, Reisman (1981) demonstrated that women emphasise the importance of intimacy and having a confidant, whereas men have expectations of having fun while doing shared activities. Marks, Huston, Johnson, and MacDermid (2001) reported that men tend to rely on intimate partners and children as leisure partners, whereas women have a wider network of friends, including other family members. Married men are more likely to spend free time with their wives than any other people and they organise aspects of

their free time to coincide with the free time of their partner (Parker & Paddick, 1990; Samdahl & Jekubovich, 1993; Sullivan, 1996). Having a spouse significantly increases leisure variety for men, and leisure variety is related to self-reported positive health for men, but not for women (Altergott, 1990).

Fathers are significantly more happy and cheerful, and feel more friendly during leisure time than during work activities only when leisure activities are conducted with the family (Larson et al., 1997). Television viewing is a significantly more cheerful and sociable experience with family members present than when conducted alone (Csikszentmihalyi & Kubey, 1981), and leisure activities are significantly more enjoyable when conducted with spouses than when conducted alone (Sullivan, 1996). When men interact with children in the absence of mothers, they feel significantly less competent as fathers, and report lower levels of overall life satisfaction. When fathers spend time with children in the presence of mothers, they feel significantly more involved and competent as parents and are more satisfied with life in general (Baruch & Barnett, 1986).

In addition to being a facilitator of and co-participator in men's leisure time activities, wives also organise men's free time activities. Micaela di Leonardo (1987) summarised women's responsibilities for maintaining social ties within the family when she wrote:

Maintaining these contacts, this sense of family, takes time, intention and skill...it is largely women's work...the maintenance of...ties, including visits, letters, telephone calls, presents, and cards to kin; the organization of holiday gatherings; the creation and maintenance of quasi-kin relations; decisions to neglect or to intensify particular ties; the mental reflection about all these activities...(p. 442-443).

Thus, the home can be seen as a structured, secure and meaningful leisure time environment. Delphy and Leonard (1992) stated, "If there is no adult woman in a household, such work is left undone, and single, widowed and divorced men say how much they miss it" (p. 234). This theme echoes earlier speculations. For example, Knupfer, Clark, and Room (1966) suggested that "Man's lesser ability to form and maintain personal relationships creates a need for a wife...to perform this function for him" (p. 848), and Troll and Turner (1979)

noted that “men have relied on their wives for linkages with family, friends, and social life in general” (p. 128). Thus, in a unique way, men value spouses as leisure partners. The leisure benefits men receive from women may include time structure and increased meaningful activity during free time, which may ultimately increase interest during free time. A corollary is that unmarried men may be deprived of a major source of meaningful activity during free time. Being unmarried may indirectly reduce interest during free time and increase boredom during free time. Marital status differentials in boredom during free time may account for the relationships between marital status and inactive leisure time activity, unhealthy lifestyle behaviours, and mortality risk.

4.1.3.3 Meaningful activity and loneliness during free time

It is likely that a lack of meaningful activity during free time will directly predict loneliness. There is no direct evidence to confirm the link between goals and loneliness, as the role of affect in models of self-regulation has not been extensively explored. Limited research that has tested achievement and performance goal theory has shown that as students successfully approach a goal, they experience positive emotions such as elation and happiness, and the absence of negative affect, anxiety, and depression (Dweck & Leggett, 1988; Elliott & Dweck, 1988). In contrast, failure to achieve goals is hypothesised to lead to feelings of sadness and anxiety (Carver & Scheier, 1998; Hill & Wigfield, 1984; Linnenbrink & Pintrich, 2000). Several reviews of the self-regulatory literature showed that people feel negative emotions such as sadness, disappointment, dissatisfaction, dejection, and depressive symptomatology when goals are not met (Higgins, 1987; 1997). Waters and Moore (2002) reported that increased ratings of the meaningfulness of leisure activities were associated with a reduction in symptoms of depressive affect and an increase in self-esteem.

Current conceptions of loneliness and men’s attributions for their loneliness are consistent with a hypothesised link between meaningful activity and loneliness during men’s leisure time. There is general agreement that loneliness is defined as sadness that results from a perceived discrepancy between a desired level of contact and an achieved level of contact (Peplau & Caldwell, 1978; Perlman & Peplau, 1982; Shaver & Brennan, 1991). This definition assumes that loneliness is the product of a mismatch between a goal and an outcome (Peplau & Caldwell, 1978; Perlman & Peplau, 1982). Research has shown that it is

the meaningfulness or density of social relationships that protects against loneliness (Corty & Young, 1981; Sarason, 1976; Stokes, 1985; Stokes & Levin, 1986). Density refers to the perception that one's friends and relatives were closely interconnected and were important to each other's lives. When people report the perceived causes of loneliness, reasons such as personal inadequacies, developmental deficits, unfulfilling intimate relationships, relocations and separations and social isolation are frequently reported (Rokach, 1997). Loneliness has been attributed to being alone and not having a spouse or lover (Rubenstein & Shaver, 1982). Thus, meaningful ties, such as marriage and family that are characterised by reciprocal responsibilities and obligations are the most important in the prevention of loneliness (Stack, 1998).

There are sex differences in attributions of loneliness. Only women experience distress where there is a deficit in a close and confiding relationship, whereas men experience distress through the lack of shared leisure time activity (Miller & Ingham, 1976). Bikson and Goodchilds (1978) found that over two-thirds of the loneliest group of single men engaged in solitary leisure time activities, whereas lonely single women pursued social activities. These results are supported in part by Tornstam (1992) who found that when asked to report the causes of their loneliness, women nominated personal reasons such as a belief they were misunderstood, that they were not needed, or were uninteresting. Men reported reasons that severed them from meaningful relationships, such as travelling and being away from home. In a factor analytic study, loneliness for men predominantly included the yearning for an intimate relationship and feelings of abandonment, whereas women experienced feelings of emptiness and hopelessness (Rokach & Brock, 1997). De Jong-Gierveld (1986) reported that men's loneliness is significantly associated with the perceived quality of the spouse relationship only, whereas for women, loneliness is strongly associated with subjective evaluations of the total social network. In the Netherlands, more single and divorced men than comparable women desired a partner, and the relationship between loneliness and wanting a partner was stronger for men than for women (Dykstra, 1995). In summary, for men, loneliness is a product of a mismatch between a desire for partner to share leisure activities and the availability of a leisure time partner. A focus on meaningful activity during men's leisure while theorising about loneliness has consequences for the way the construct is measured.

4.1.3.4 The measurement of loneliness

The two most widely used loneliness measures are the UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980; Russell, Peplau, & Ferguson, 1978) and a single-item measure of loneliness. While a single-item measure has high face validity (Stack, 1998), it has been criticised for its problems of social desirability and response bias (Russell, 1982). For example, people tend to be unwilling to acknowledge that they are lonely, and loneliness in others is judged as a negative characteristic (Booth, 1983; Borys & Perlman, 1985; Rook & Peplau, 1982; Rotenberg & MacKie, 1999).

The UCLA Loneliness Scale is a Likert-type scale that focuses on the quality of the respondents' levels of intimacy and closeness to other people. None of its 20 items include the term 'lonely' or 'loneliness'. It is widely used in both large and small surveys, but it has been unsuccessful in its ability to reliably find gender differences in loneliness scores. Some studies have reported no gender differences (Barretta, Dantzler, & Kayson, 1995; Borys & Perlman, 1985; Maroldo, 1981; Nurmi, Toivonen, Salmela-Aro, & Eronen, 1997) and when gender differences were apparent, the results were inconsistent (Archibald, Bartholomew, & Marx, 1995; Borys & Perlman, 1985; Cramer & Neyedley, 1998; Solano, 1980; Stokes & Levin, 1986; Woodward, Zabel, & DeCosta, 1981). The UCLA Loneliness Scale may not be a valid instrument for measuring men's loneliness. Only two of the 20 items assess shared activities, but neither of those two items directly measure the quality of men's shared leisure time activities with their wives (i.e. Item 1: 'I am unhappy at doing so many things alone'; Item 9: 'My interests and ideas are not shared by those around me') (Russell et al., 1980).

4.1.3.5 Loneliness and health

Loneliness is associated with psychological distress, poor physical health, low self-esteem, increased life dissatisfaction, and symptoms of anxiety, sleep disturbances, headaches, loss of appetite, and other somatic symptoms of stress (Andersson, 1993; Brage, Meredith, & Woodward, 1993; DeBerard & Kleinknecht, 1995; Fees, Martin, & Poon, 1999; Hsu, Hailey, & Range, 1986; Jackson & Cochran, 1990; Mahon, Yarcheski, & Yarcheski, 1997; Murphy & Kupshik, 1992; Nurmi et al., 1997; Perlman, Gerson, & Spinner, 1978; Schumaker, Shea, Monfries, & Groth-Marnat, 1992; Tjihuis, de Jong-Gierveld, Feskens, & Kromhout, 1999).

It is also positively associated with symptoms of depression and low positive affect, as well as more severe psychopathology including clinical depression, borderline personality disorder, and schizophrenia (Ernst & Cacioppo, 1999; Young, 1982). Loneliness is believed to affect stress reactivity, which may depress the human immune system (Cacioppo, Ernst, Burleson, McClintock, Malarkey, Hawkley, Kowalewski, Paulsen, Hobson, Hugdahl, Spiegel, & Berntson, 2000; Cacioppo, Hawkley, & Berntson, 2003; Hawkley & Cacioppo, 2002; Kiecolt-Glaser, Ricker, George, Messick, Speicher, Garner, & Glaser, 1984).

4.1.3.6 Loneliness and social support

Although the definition of loneliness suggests a lack of social support networks, loneliness is distinguished from social support in the literature. Attributions of loneliness rarely include notions of a lack of help, or the absence of guidance or coping that typically characterise theories of social support (Gerstel et al., 1985; Joung et al., 1997; Ross et al., 1990). An often-ignored finding is that loneliness is highly prevalent even when social supports are present. In an American study, 4.6% of married people reported being lonely 'fairly often' or 'very often' (Page & Cole, 1991a). Forty percent of married adults in Sweden reported feeling lonely 'often' or 'sometimes', 16% reported feeling lonely together with other people, and 7% reported feeling lonely 'right now' (Tornstam, 1992).

Multivariate analyses have shown that loneliness, but not all indices of social support, was the strongest predictor of psychological distress, chronic illness, self-reported ill-health, and cardiovascular disease incidence (Corty & Young, 1981; Gerstel et al., 1985; Lichtenstein & Pedersen, 1995; Sorkin, Rook, & Lu, 2002). Loneliness predicted cardiovascular mortality over a 14-year period for men, but not for women, after controlling for measures of social support (Olsen, Olsen, Gunner-Svensson, & Waldstrøm, 1991). After adjusting for social support and symptoms of depression, Hawkley, Burleson, Berntson, and Cacioppo (2003) reported that relative to non-lonely students, lonely students showed lower amounts of blood flow per minute and higher total resistance to blood flow from the heart and into the circulatory system. These two factors are believed to be prodromal to elevated blood pressure and cardiovascular disease (Hawkley et al., 2003).

4.1.3.7 Marital status, meaningful activity, and loneliness during free time

The association between meaningful activity and loneliness during free time could explain why marriage is more beneficial for men than it is for women. In other words, meaningful activity in leisure time may mediate the relationship between marital status and loneliness, and marital status differences in loneliness may explain, to a large extent, the marital status differentials in morbidity and mortality.

There is no doubt that marriage protects against loneliness. Survey data has consistently shown a higher prevalence of loneliness among single, divorced, separated and widowed people relative to married people (de Jong-Gierveld & Raadschelders, 1982; Page & Cole, 1991a; Peplau & Perlman, 1982; Tornstam, 1992; Wood, 1978). However, when single-item or multidimensional loneliness measures other than the UCLA Loneliness scale are used, marital status differences in loneliness vary by sex. In unmarried adults, men report significantly higher loneliness scores than women (Dykstra, 1995; Peters & Liefbroer, 1997; Pinquart, 2003; Zhang & Hayward, 2001). Among married people, the converse is true: married women are lonelier than married men (Stack, 1998; Tornstam, 1992). These data have been interpreted to mean that marriage is more beneficial for men than for women (de Jong-Gierveld & Tilburg, 1989; Wood, 1978).

4.1.3.8 Loneliness, lifestyle risk factors, and health

There is some ambiguity about whether lifestyle behaviours account for the relationship between loneliness and health or whether the effect of loneliness on health is direct. Mahon, Yarcheski, and Yarcheski (1998) found that loneliness was inversely related to a composite score of positive health practices, including exercise, nutrition, relaxation, substance abuse, safety and health promotion. Page, Allen, Moore, and Hewitt (1993) reported that both increased frequency of getting drunk and increased loneliness directly predicted increased feelings of helplessness in adolescents. However, recent studies by Cacioppo and colleagues (Cacioppo, Hawkley, Crawford, Ernst, Burleson, Kowalewski, Malarkey, Van Cauter, & Berntson, 2002; Hawkley et al., 2003), showed comparable levels of physical exercise, tobacco use, diet, medical compliance, and use of seatbelts were reported across the full range of scores on the UCLA Loneliness Scale among undergraduate students and a sample

of 25 adults. Similarly, Sorkin et al (2002) found no evidence for the mediational role of lifestyle risk factors (tobacco and alcohol use, physical exercise, and diet) in explaining the relationship between loneliness and heart disease incidence.

If associations between loneliness, lifestyle risk factors, and health exist, then they may be more important for men's health than for women's health. Data from qualitative studies have shown that loneliness was the major emotional difficulty experienced by divorced men, whereas women were more likely to report problems associated with a lack of money (Bianchi & Spain, 1986; Burns, 1980; Cherlin, 1981; White & Bloom, 1981). These two factors differentially and negatively affect the health of unmarried men and women (Gerstel et al., 1985; Mathers, 1994a). Loneliness has been associated with an increase in volume of total alcohol consumption and risk of alcoholism for men, particularly in the middle adulthood years (Åkerlind & Hörnquist, 1992; Barretta et al., 1995; Page & Cole, 1991b). Lonely married men who named their spouse as the closest person to them were less likely to use alcohol relative to lonely married men who did not name their spouse as the closest person to them (Tornstam, 1992).

Men's free time behaviours may account for some of the association between loneliness and health although leisure variables have not been included in any studies. Television may be used by lonely people as a 'substitute for a social life' (Rubenstein & Shaver, 1982), as lonely people tend to avoid social activities (Hawkley et al., 2003; Peplau & Perlman, 1982). Perlman, et al (1978) found that lonely people preferred to have more structured activities to do during leisure time, and they tended to watch the most television. Lonely men, but not lonely women, spend more free time relaxing and being idle (Perlman et al., 1978). Roland and Page (2000) reported that compared to non-lonely young adults, lonely young adults spent more time playing board and computer games and watching television during leisure time. When asked how they coped with loneliness, most people reported that they watched television, read books or newspapers, listened to music, and talked to friends (Moore & Schultz, 1983; Rubenstein & Shaver, 1982; Tornstam, 1992). Longer-term strategies for reducing loneliness included working harder, engaging in physical activity, joining organisations, and going to dances and social gatherings (Rook & Peplau, 1982).

Men's loneliness, alcohol consumption, and leisure behaviours may act synergistically on health. Although loneliness was not measured directly, Wickrama, Conger, and Lorenz (1995) reported high levels of alcohol, tobacco, and illicit drug use among men who reported low participation in joint leisure activities with their wives. Single (1985) argued that pubs, bars, and taverns were designed to encourage sexual encounters. Gordon (1976) also observed the ways that public bars and taverns had prospered in the booming 'loneliness business', and at the same time described the ways in which modern society no longer provided conventional opportunities for forming relationships. People who were hopeful of establishing an intimate relationship, particularly young adults, showed a clear preference for leisure activities in public places that provided that possibility (Silbereisen, Noack, & von Eye, 1992). Schonfeld, Dupree, and Rohrer (1995) observed that older lonely alcohol abusers tend to drink at home alone, whereas younger lonely alcohol abusers tend to drink at bars or clubs or outdoors more often than at home.

4.1.3.9 Loneliness and boredom during free time

Of course, no conclusions can be made about the relationships between loneliness, lifestyle risk factors, and health, without considering that people who report being lonely also report being bored (Moore & Schultz, 1983; Rubenstein & Shaver, 1982; Stuewe-Portnoff, 1988). Nineteen percent of respondents in Harris' (2000) survey reported that loneliness was the *cause* of their boredom. Many people are lonely when they have nothing to do, and lonely people report boredom symptomatology such as passivity and lethargy (Perlman et al., 1978; Rubenstein & Shaver, 1982). The developers of the UCLA Loneliness Scale reported moderate correlations between loneliness and feelings of restlessness (.36) and boredom (.36) (Russell et al., 1978). During construct validity tests of the Boredom Proneness Scale (Farmer & Sundberg, 1986), scores on the UCLA Loneliness Scale significantly correlated with scores on the BPS (.53) and with a single-item measure of boredom (.35). Therefore, it is possible that any behavioural or health effects of loneliness are mediated through boredom. However, the effects of loneliness on lifestyle risk factors, and health in the presence of boredom have not been investigated.

Figure 5 highlights the hypothesised relationship between marital status and loneliness during free time through the mediating mechanism of meaningful activity during free time.

Boredom during free time is expected to account for the relationships between marital status, loneliness during free time, and inactive leisure time use, unhealthy lifestyle behaviours, and poor health.

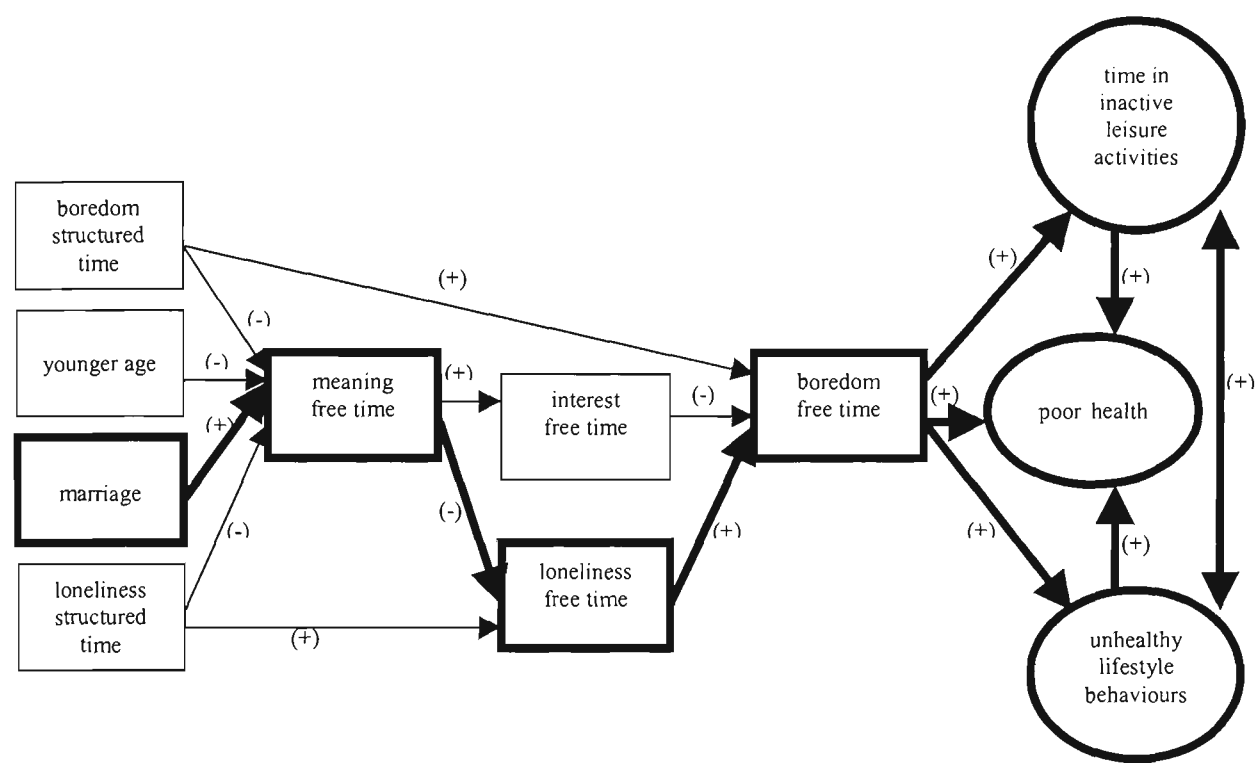


Figure 5
The Hypothesised Relationships among Marital Status, Meaningful Activity during Free Time, Loneliness during Free Time, Boredom During Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

4.1.3.10 Age, meaningful activity, loneliness, interest, and boredom during free time

A theme exists in the literature that boredom during leisure time is a problem for younger people (Brumhead & Searle, 1990; O’Hanlon, 1981; Patterson & Pegg, 1999). The evidence for that claim is tenuous, and is possibly an artefact of the findings from studies that have focussed only on adolescents and undergraduate students. Using the Leisure Boredom Scale, Iso-Ahola and Weissinger (1987) found no age effects in a community sample where the mean age was 44 years. Weissinger et al (1992) reported a small, but significant negative relationship between age and leisure boredom among undergraduate students. Gordon and Caltabiano (1996) found a positive and significant effect of age on leisure boredom in urban students, but a significant negative relationship in rural students. Reasons for the discrepancies are not evident. However, Gordon & Caltabiano (1996) employed simple correlation analytic techniques, whereas Weissinger and colleagues (Iso-Ahola & Weissinger,

1987; Weissinger et al., 1992) used multiple regression analyses. Thus, if any age variations in boredom do exist, they may be accounted for by age variations in intrinsic motivation.

Even less is known about the relationship between age and the tendency to be bored. The very few studies that have investigated age differences in boredom proneness have reported inconsistent results. Harris (2000) found no age effects, whereas Vodanovich and Kass (1990b) reported that older people were less bored than younger people, and this was due to age differences in the ability to organise time and to control affective reactions to boredom.

Another common theme in the literature is that loneliness is an ailment common during adolescence and young adulthood, and in the very elderly, although the evidence is inconclusive in relation to the role of age in predicting loneliness in the general population (Barretta et al., 1995; Brage et al., 1993; Brennan, 1982, de Jong-Gierveld, 1987; Page & Cole, 1991a; Stack, 1998; Tijhuis et al., 1999; Tornstam, 1992; Windriver, 1993).

Young adulthood may be seen by many as a time that offers little opportunity for the development of full and rich life goals, and this may translate into a lack of meaningful activity during free time. For example, Baum and Stewart (1990) found that in comparison to older adults, younger adults aged between 17 to 25 years reported the least number of meaningful events during their lives. The mean age of occurrence for the onset of all meaningful events reported ranged from 25 to 43 years, suggesting a lack of sources of meaning for younger people. Although Larson and Richards (1989) found that most American adolescents reported a preference to pursue conventional future goals such as work, college, marriage, and family, those goals are usually not attainable until adulthood.

To obtain those adults goals, many younger people may focus on forming intimate relationships (Erikson, 1968; Silbereisen et al., 1992). DeVogler and Ebersole (1983) noted that a high percentage (67%) of American adolescents cited intimate relationships as the most important meaning in their lives. In two studies of college students, intimate relationships also emerged as the category most frequently mentioned as important (DeVogler & Ebersole, 1980; Ebersole & DeVogler, 1981). A narrow focus on romantic relationships may be particularly problematic for younger men's loneliness. Indeed, Brennan (1982) reported that being partnered was a strong predictor of reduced loneliness for young

adults, whereas quantitative measures of friendship contact were not, and many young people believed that the only way to overcome loneliness would be to be involved in a steady intimate relationship.

Thus, the potential for younger men to become lonely and bored may be dependent upon the degree to which they are able to sustain meaningful activity during free in the absence of a spouse and other adult social goals. More simply, relative to older men, younger men may be lonelier and more bored during free time because they are less likely to sustain meaningful activity and interest during free time. Age variations in boredom during free time are expected to predict age variations in inactive leisure time use, unhealthy lifestyle behaviour, and health outcomes, as highlighted in Figure 6.

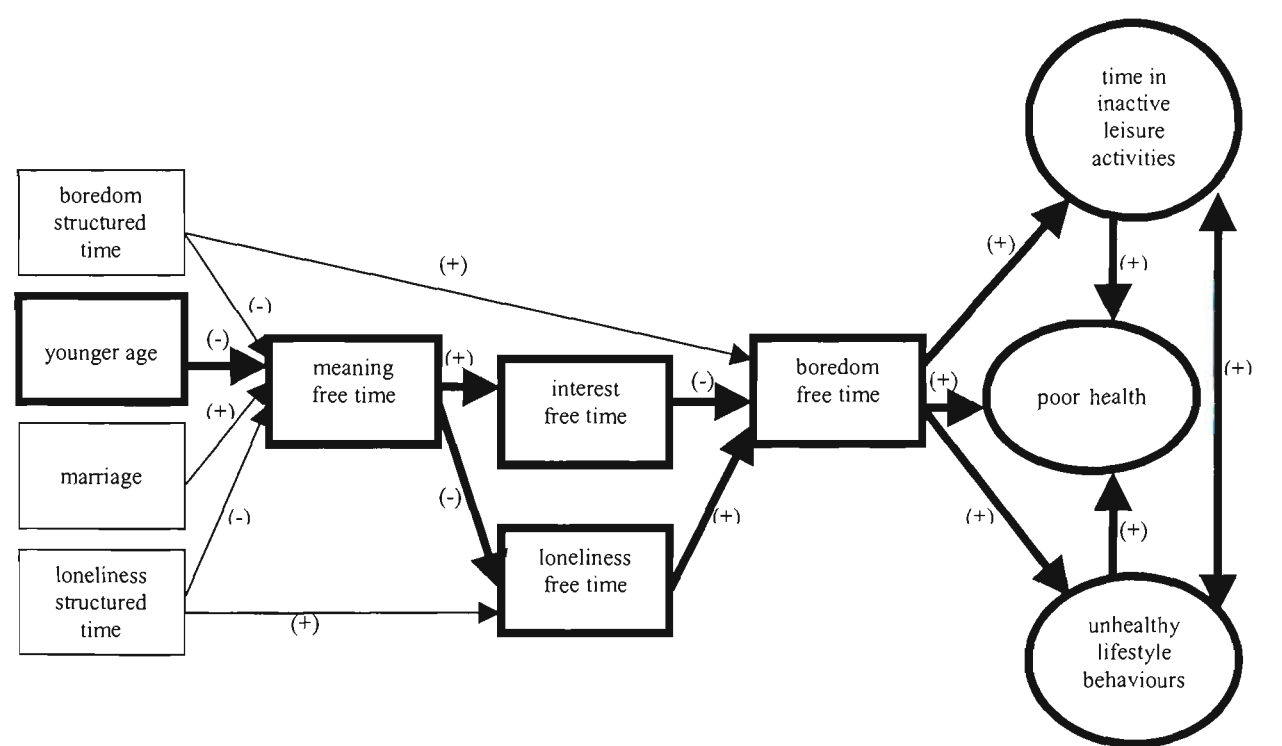


Figure 6
The Hypothesised Relationships among Age, Meaningful Activity during Free Time, Interest during Free Time, Loneliness during Free Time, Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

4.1.3.11 Loneliness during structured time and loneliness and boredom during free time

Beck and Young (1978) distinguished between three types of loneliness: chronic loneliness, which was attributed to social deficits over longer periods of time; situational loneliness, typically resulting from the end of an intimate relationship; and transient loneliness, which most of us experience to some degree at some point in our lives. Studies have shown that nearly one-quarter of the population is chronically lonely (Bradburn, 1969; Snodgrass, 1987). Therefore, feelings of loneliness during activities other than those conducted in free time may moderate the effect of meaningful activity on loneliness during free time (see Figure 7).

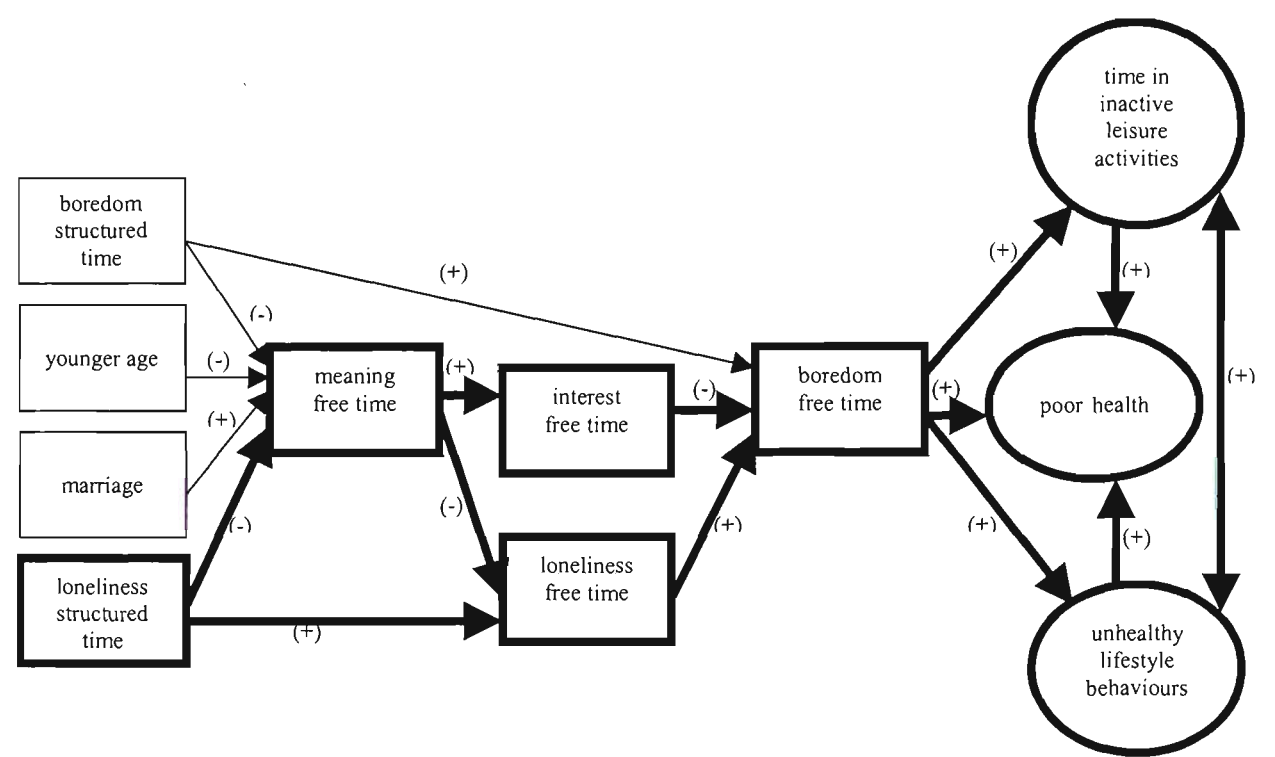


Figure 7
The Hypothesised Relationships among Loneliness during Structured Time, Meaningful Activity during Free Time, Interest during Free Time, Loneliness during Free Time, Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

De Jong-Gierveld and Raadschelders (1982) found that people who lacked intimate partners and felt that life was meaningless were least likely to participate in meaningful activities during free time and were more likely to feel lonely across time. On the other hand, people who lacked intimate relationships were least likely to report being lonely when they were able to maintain meaningful social relationships at work, and when they regularly participated in organisations and clubs during free time. Older people who engaged in creative activities

and adolescents who perceived themselves as creative, imaginative, and complicated, were less likely to be lonely (Mahon, Yarcheski, & Yarcheski, 1996; Torrence, 1976). These attributes may actually reflect an ability to engage in meaningful projects in the absence of meaningful relationships.

The chronicity of loneliness has been shown to be a stronger predictor of stress symptomatology than the current intensity of the emotion (DeBerard & Kleinknecht, 1995). Cacioppo et al (2000) found that loneliness was associated with physiological symptoms of stress (elevated salivary cortisol levels throughout the day) only when loneliness was chronic. However, the health and behavioural effects of chronic loneliness have not been empirically tested after any effects of meaningful activity, loneliness, and boredom during free time were adjusted for. Thus, boredom during free time may account for any associations between chronic loneliness and negative health outcomes.

4.1.3.12 Boredom during structured time and boredom during free time

Although Iso-Ahola and Weissinger (1987) acknowledged that leisure boredom might be affected by a number of other demographic and psychological factors, they did not directly consider that boredom prone people tend to exhibit a lack of interest in all aspects of their lives (Farmer & Sundberg, 1986; Sundberg et al., 1991). Farmer and Sundberg (1986) reported associations between single-item ratings of boredom and measures of job boredom. Adolescents who reported being bored at school also described leisure as boring (Larson & Richards, 1991; Robinson, 1975; Shaw et al., 1996). Therefore, people who perceive any activity in daily life as boring may find difficulty sustaining meaningful activity and interest during free time, and may also perceive leisure time as boring (Massimini & Carli, 1988). The self-regulation model of interest posits that situational and contextual variables moderate the effects of goals on interest (Sansone & Smith, 2000). Therefore, men's perceptions of boredom during structured time may directly reduce meaningful activity during free time and indirectly reduce interest and increase boredom during free time, as highlighted in Figure 8.

From a review of the literature on boredom and substance abuse, and through clinical case studies, Todman (2003) identified a form of boredom that was situation independent. He

argued that there were people who exhibited chronic boredom, which he observed as a sustained inability to perceive any environment as interesting. Chronic boredom is associated with a wide range of severe negative psychological symptoms, such as mood disturbances, paranoia, and hallucinations. Therefore, some men who are bored during structured time may lack the ability to attribute meaning to free time, and therefore will be bored during free time independent of meaningful activity during free time (Figure 8). Furthermore, Todman (2003) concluded that any relationships between boredom, boredom proneness, and negative behavioural outcomes, such as substance use, were predominantly associated with elevated levels of chronic boredom. However, it was not clear from Todman’s (2003) analysis whether the behavioural manifestations of chronic boredom symptomatology occurred during free time. The next research step is to examine whether boredom during free time or boredom during all daily activities is related to leisure time behaviours, lifestyle risk factors, and health. This analysis should be conducted within a research framework that controls for other known mortality risk factors and uses a more reliable measure of boredom that accounts for variations in ratings of boredom within and between activities.

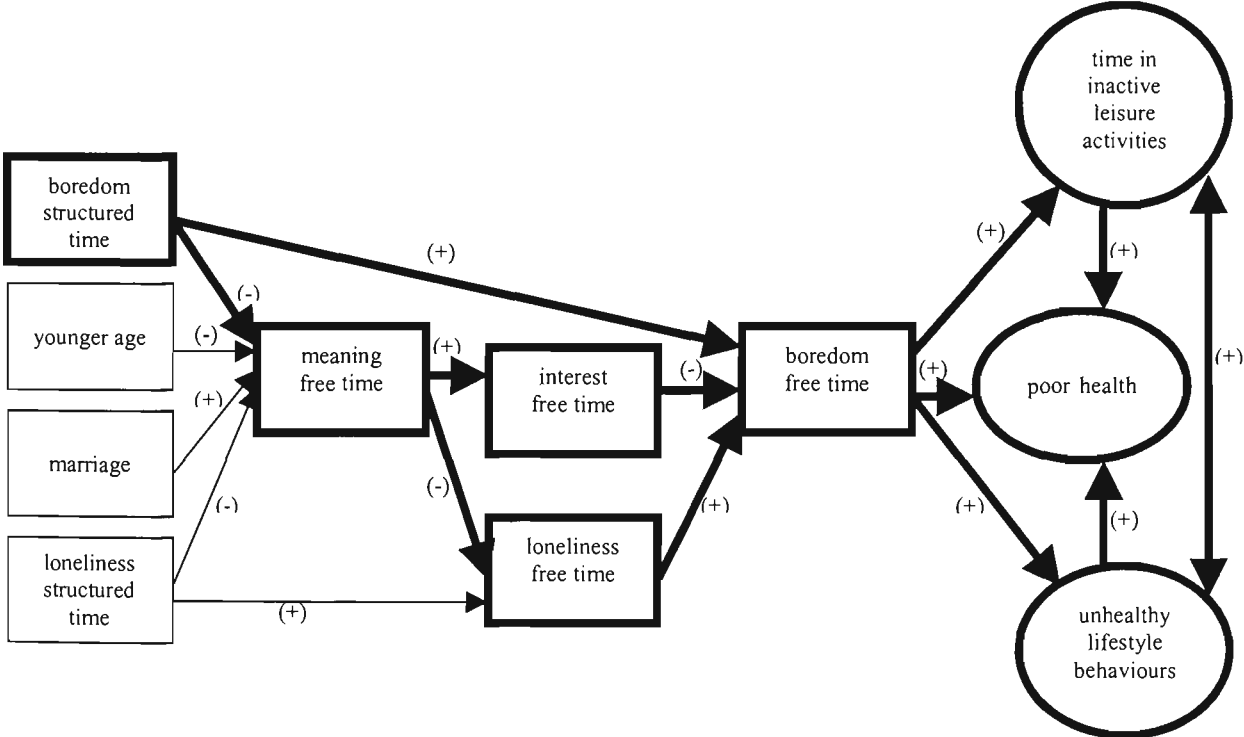


Figure 8
The Hypothesised Relationships among Boredom during Structured Time, Meaningful Activity during Free Time, Interest during Free Time, Loneliness during Free Time, Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health (Highlighted)

Epidemiological research has shown that lifestyle risk factors such as tobacco and alcohol use and physical inactivity vary by sex, marital status, and other sociodemographic factors. However, a substantial sex differential in mortality continues to exist when all known risk factors are accounted for (Kaplan et al., 1987; Mathers, 1994a; Verbrugge, 1989; Wingard et al., 1983). Research on the effects of social support on mortality has shown that being married was the strongest predictor of men's longevity. Lifestyle risk factors and physical activity levels during leisure time appeared to mediate the relationship between marital status and mortality. Until now, no systematic review or analysis has been conducted to explain why sex and marital status moderate the effects of lifestyle risk factors on mortality risk. Furthermore, evidence suggests that age may be highly influential in the associations between lifestyle risk factors and health outcomes. Although age differences in men's unhealthy lifestyles are well documented, the finding has also received little theoretical explanation. Moreover, limited attention has been paid to the strong relationships between alcohol abuse, depression, and mortality among men.

The above review has provided evidence to suggest that the objective uses of men's leisure time may be determinants of their excess mortality and premature death. The research indicates that despite having more free time, men have a more social and sedentary leisure lifestyle than women and younger unmarried men spend more time in these leisure activities than older married men. Men's passive leisure and social activities are directly linked to the leading behavioural risk factors for premature mortality, especially heavy alcohol consumption. A sedentary leisure lifestyle and unhealthy behaviours are independently linked to the major causes of death among men. The leisure and lifestyle behaviours may co-occur to synergistically increase men's mortality risk. The combinations of leisure and lifestyle risk factors are more common among men than women.

While these findings have highlighted a possible relationship between leisure, lifestyle risk factors, and mortality risk, a central question remains: Why do men differ from women, and why do younger and unmarried men differ to older and married men with respect to their leisure lifestyles? They also raise the following paradox for men's leisure: Why is leisure related to an increased risk of mortality for men when, relative to women, they benefit from

additional time and negative affect reduction during leisure time? One factor that has largely been overlooked is that the degree to which free time is structured with meaningful activity varies by sex, age, and marital status, and structured meaningful activity may be necessary to guide and motivate activity and for effective daily functioning.

A growing body of research provides evidence that two psychological symptoms, namely boredom and loneliness, may be related to a lack of meaningful activity during unstructured time. Boredom and loneliness are also either directly or indirectly associated with increases in passive leisure and social activities. Boredom is strongly associated with heavy alcohol consumption, symptoms of depression, and morbidity. Boredom is most prevalent among younger men. Loneliness is also associated with alcohol use, poor health, and is a strong and pervasive predictor of an increase in risk factors for cardiovascular disease and premature mortality. Marriage prevents and reduces loneliness more for men than it does for women.

One or more of these psychological symptoms may be associated with an increased risk of premature mortality, or they may combine with leisure and/or lifestyle risk factors to increase men's mortality risk. However, little research has systematically examined the direct and indirect pathways through which these psychological symptoms may influence leisure and unhealthy behaviours and health. Furthermore, it is unknown whether the negative behavioural and health effects of boredom and loneliness are operative during all daily activities or only during unstructured free time. The fact that the cluster of psychological symptoms are all related to each other suggests that they may form part of a single underlying construct that is manifested as boredom during unstructured free time.

Leisure boredom is a valid and reliable scientific concept that may represent a negative affective state that arises when a lack of meaningful activity constrains the ability to regulate interest and overcome loneliness to achieve optimal arousal during unstructured free time. Thus, during unstructured time, reduced interest and increased loneliness may mediate the relationship between meaningful activity and boredom. The relationship between meaningful activity and boredom during free time may also be moderated by the degree to which men are bored and lonely during other daily activities.

Theoretically, leisure boredom may lead to an inactive leisure lifestyle characterised by an over-reliance on passive leisure and social activities in an attempt to increase interest and reduce loneliness during prolonged unstructured time. Alcohol consumption is more likely to occur during men's social activities and passive leisure than during other activities. Thus, the time men spend in social activities and passive leisure may combine with boredom during free time to influence the frequency and volume of alcohol consumed. The relationships between age and boredom during free time, and marital status and boredom during free time, and time spent in passive leisure and social activities may explain age and marital status differences in alcohol consumption patterns. The inability to reduce boredom during free time through spending time in leisure activities may directly predict an increase in mortality risk even after controlling for time spent in passive leisure and social activities, alcohol consumption, and other risk factors for morbidity and mortality. Marital status differences in boredom during free time may influence the marital status differential in risk of mortality. Age differences in boredom during free time may influence age differences in mental health.

A gender relations analysis of men's free time activities may provide a basis for understanding why leisure boredom may be more prevalent for men than for women and why it may be related to men's unhealthy lifestyle behaviours and to the sex and marital status differentials in mortality. In the production of gender via the avoidance of housework, men's free time becomes an unstructured male leisure domain. Where there is little time structure, there may be a lack of meaningful goals to guide and motivate men's behaviour during free time and to reduce the negative impact of boredom during free time.

Another aspect of gender relations is that men are more likely than women to rely on spouses to structure and provide meaning to free time activities, to reduce or prevent loneliness during free time, and to increase interest during free time. Specifically, meaningful activity during free time may mediate the relationships between marital status and reduced loneliness during free time and marital status and increased interest during free time. As a consequence, married men may be less bored during free time than unmarried men.

An additional dimension of gender relations is that with the emphasis on paid work and marriage to define masculinity; many younger men may be denied access to these life goals.

Thus, relative to older men, younger men may be excluded from being able to sustain meaningful activity during free time and they may have more unstructured free time. Consequently, younger men may be less interested and lonelier during free time than older men, and these factors may combine to increase boredom during free time.

In addition to the avoidance of housework, men may use other resources during unstructured time to define their leisure activities as manly or masculine. Alcohol consumption is a resource that men may use to reconstruct masculinity during social and passive leisure activities, such as watching television, resting, relaxing, and reading.

CHAPTER 5

RESEARCH AIMS AND HYPOTHESES

5.1 General aims

The aims of the current study were to:

1. Establish a direct relationship between the objective and subjective aspects of men's unstructured free time and men's higher risk of mortality relative to women, using more reliable and valid concepts embedded in time-use methodology, while controlling for all known mortality risk factors.
2. Identify the relationships between age, marital status, the objective and subjective aspects of leisure time, unhealthy lifestyle behaviours, and mortality risk among men in the context of a gender-relations framework that emphasises the predictive power of boredom during free time and the mediator roles of meaningful activity, loneliness, and interest in explaining variations in men's boredom during free time.

The aims were operationalised by conducting five phases of hypotheses testing as follows:

5.1.1 Phase 1

5.1.1.1 Aims

The aims of phase 1 were to:

1. Describe variations in structured time and unstructured time use, and to describe marital status and age variations in structured time and unstructured time use.
2. Examine the degree to which men's ratings of meaningful activity, boredom, and loneliness were dependent on the type of time, and whether time was experienced differentially according to marital status and age.

3. Determine the degree to which men's childcare and domestic labour activities were distinguished from leisure time activities.

5.1.1.2 Hypotheses

It was hypothesised that:

1. In comparison to structured time, ratings of meaningful activity would be lower during unstructured time.
2. The differences in ratings of meaningful activity during structured and unstructured time would be greater for unmarried men than for married men, and greater for younger men than for older men.
3. Ratings of boredom and loneliness would be lower during unstructured time than during structured time.
4. The differences in ratings of boredom and loneliness during structured and unstructured time would be greater for married men than for unmarried men, and greater for older men than for younger men.
5. There would be no differences in ratings of meaningful activity, boredom, and loneliness during contracted time and committed time.

5.1.2 Phase 2

5.1.2.1 Aim

The aim of phase 2 was to develop and test the utility of a causal model that emphasises the mediator roles of meaningful activity, loneliness, and interest in explaining individual, marital status, and age variations in men's boredom during unstructured free time.

5.1.2.2 Hypotheses

It was hypothesised that:

1. Boredom during free time would be higher when lower ratings of meaningful activity during free time constrained men's capacity to overcome loneliness during free time and to engage in free time activities in an interested manner.
2. Compared to married men, unmarried men would be more bored during free time because they would be less likely to sustain meaningful activity during free time, and would be lonelier and less interested during free time.
3. Compared to older men, younger men would be more bored during free time because they would be less likely to sustain meaningful activity during free time, and would be lonelier and less interested during free time.
4. In comparison to men who were less bored and lonely during structured time, men who were more bored and lonelier during structured time would be more bored and lonelier during free time and would be less likely to sustain meaningful activity and interest during free time.

5.1.3 Phase 3

5.1.3.1 Aim

The aim of phase 3 was to identify the relationships between age, marital status, meaningful activity, loneliness, interest, and boredom during free time, loneliness and boredom during structured time, and time spent in active leisure, passive leisure, and social activities when known predictors of men's leisure time use were controlled for.

5.1.3.2 Hypotheses

It was hypothesised that:

1. Increased boredom during free time would be associated with an increase in time spent in passive leisure, an increase in time spent in social activities, and a decrease in time spent in active leisure.
2. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and men's leisure time use after the variance associated with boredom during free time was accounted for.
3. Age and marital status variations in boredom during free time would account for any age and marital status variations in time spent in social activities, time spent in passive leisure, and time spent in active leisure.

5.1.4 Phase 4

5.1.4.1 Aim

The aim of phase 4 was to examine the relationships between age, marital status, meaningful activity, loneliness, interest, and boredom during free time, boredom and loneliness during structured time, time spent in active leisure, passive leisure, and social activities, and unhealthy lifestyle behaviours, when known risk factors were controlled for.

5.1.4.2 Hypotheses

It was hypothesised that:

1. Increased time spent in social activities would be associated with an increase in alcohol consumption in pubs, bars, and taverns.

2. Increased time spent in passive leisure would be associated with an increase in alcohol consumption while spending a quiet evening at home.
3. There would be no relationship between time spent in active leisure and alcohol consumption at pubs, bars, and taverns, or alcohol consumption while spending a quiet evening at home.
4. Increased boredom during free time would be associated with an increase in alcohol consumption in pubs, bars, and taverns and an increase in alcohol consumption while spending a quiet evening at home.
5. Marital status and age variations in boredom during free time would account for the relationships between age, marital status, and alcohol consumption in pubs, bars, and taverns, and for the relationship between marital status and alcohol consumption while spending a quiet evening at home.
6. Increased time spent in passive leisure and increased time spent in social activities would be associated with an increase in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
7. Increased boredom during free time would be associated with an increase in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
8. Marital status and age variations in boredom during free time would account for age and marital status differences in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
9. There would be no relationships between time spent in active leisure and total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.

- 10. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and alcohol consumption at pubs, bars, and taverns, or alcohol consumption while spending a quiet night at home after the variance associated with boredom during free time was accounted for.
- 11. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication after the variance associated with boredom during free time was accounted for.

5.1.5 Phase 5

5.1.5.1 Aim

The aim of phase 5 was to identify the relationships between marital status, meaningful activity, loneliness, interest, and boredom during free time, loneliness and boredom during structured time, time spent in active leisure, passive leisure, and social activities, and mortality risk, when known mortality risk factors were controlled for.

5.1.5.2 Hypotheses

It was hypothesised that:

- 1. Increased time spent in active leisure would be associated with higher physical and mental health scores, and increased time spent in passive leisure and social activities would be associated with lower physical and mental health scores.
- 2. Increased boredom during free time would be associated with lower physical and mental health scores.

3. There would be no relationships between meaningful activity, loneliness, and interest during free time or boredom and loneliness during structured time and health after the variance associated with boredom during free time was accounted for.
4. The relationship between marital status and health would be accounted for by marital status differences in boredom during free time.

SECTION 2: METHODOLOGY AND DATA PREPARATION

CHAPTER 6

METHOD

6.1 Participants

6.1.1 Demographic characteristics

The participants were 186 men residing in metropolitan Melbourne, Australia. Participants were recruited after they responded to a media campaign calling for volunteers. The participants were aged between 20 to 75 years, and the mean age was 37.75 years ($SD=11.71$). Men aged between 18 to 25 years ($n=30$) and 56 years and over ($n=12$) were slightly underrepresented in comparison to men aged between 26 to 35 years ($n=56$), 36 to 45 years ($n=46$), and 46 to 55 years ($n=42$). The majority of the men were born in Australia (79%). Fourteen men were born in the United Kingdom, three men were born in Scotland, and two men were born in the USA and Canada. The remaining men were born in non-English speaking countries (Europe, Asia, and Africa). Married men were over-represented ($n=84$) compared with men who were in a *de facto* marriage ($n=14$), separated ($n=8$), divorced ($n=16$), widowed ($n=1$), and never married ($n=63$).

Occupation and education levels were assessed using the Australian Standard Classification of Occupations (ABS, 1997d) and the Australian Standard Classification of Education (ABS, 2001). The distribution of occupation groups showed a slight over-representation of upper status occupations such as managerial, administration, professional, clerical, sales, and service (60%) compared with skilled trades and unskilled labourers (33%). There was an under-representation of students (2%), pensioners (2%), and retired men (3%). There was also a slight imbalance between high and low educational attainment. Forty percent of men had a bachelor degree or postgraduate qualification. Ten percent of men had completed the compulsory years of secondary school (years 7 to 10), but did not enter higher education. Fifty-seven men had completed the four years of compulsory secondary school and had completed two post-compulsory years of higher secondary school. Thirty-six men had completed vocational education or training.

The mean annual salary was \$41,109.58 ($SD=21131.15$). There was only a slight imbalance between men with dependent children in the home (44%) and men without dependent children in the home (56%).

The demographic characteristics varied across marital status groups. The mean ages for each marital status group were 43.30 years for married men ($SD=10.10$), 44.25 years for divorced men ($SD=10.59$), 42 years for separated men ($SD=11.21$), 31 years for men in a *de facto* marriage ($SD=7.36$), and 29.1 years for never married men ($SD=7.50$). The widowed man was aged 75 years. Married men had the highest income, with a mean annual salary of \$49,369.01 ($SD=20800.81$), followed by \$47,894.83 for divorced men ($SD=21130.89$), \$41,000.00 for separated men ($SD=14162.32$), \$34,600.00 for men in a *de facto* marriage ($SD=4402.02$), and \$28,303.83 for never married men ($SD=18258.30$). The men in a *de facto* marriage and never married men completed more years of formal education than did separated, divorced or married men. The majority of married men had dependent children living in the home (77.4%), compared with 14.3% of men in a *de facto* marriage, 50% of separated men, 25% of divorced men, and 9.5% of never married men. The mean number of dependent children in the homes of married men was 1.80 ($SD=1.29$).

6.1.2 Behavioural characteristics

One hundred and sixty nine men (91%) were classified as current drinkers. Only three men reported they had given up drinking. Two men who had given up drinking reported doing so for health reasons. A smaller proportion of never married men (58.8%) were current drinkers in comparison to men in a *de facto* marriage (76.5%), married men (76.5%), and separated/divorced/widowed men (88.2%).

There was an under-representation of men who were classified as current smokers (21%) compared with non-smokers (59.1%) and former smokers (19.9%). Twenty-eight former smokers reported having ceased smoking for health reasons. In comparison to all other groups of men, fewer married men were current smokers. Former smokers were disproportionately represented in the married group.

6.1.3 Prior health status

The majority of men (73.7%) reported no history of medical or mental illness, disability, chronic pain, disease or other disorder. Nearly one quarter (22.6%) of the sample reported a history of one illness or disorder, and a smaller proportion of men (3.7%) reported multiple diagnoses. Asthma was the most frequently reported physical diagnosis, affecting 27.8% of the men who reported a history of medical illness. The next most frequently reported conditions were depression (16.7%), back disorders (13.9%), and arthritis (8.3%). Of all the men who reported at least one physical diagnosis, a small proportion (19.4%) reported having completely recovered from the condition. Marital status groups had comparable medical histories.

Slightly under half of the sample (47.8%) reported that no family member had suffered from any hereditary disease. Fifty-six men nominated at least one family member (e.g. parent or sibling) and 41 men reported two or more family members (e.g. parent(s) and sibling(s)) had suffered from a hereditary disease. Forty-seven percent of family members were reported to have suffered from cardiovascular conditions, including heart disease, high blood pressure, and stroke. Cancer was the second most frequently reported disease (24.5%), followed by diabetes (14.3%), and depression (6.1%). A slightly higher proportion of married men (59.5%) than men in the unmarried groups (45.1%) reported that at least one family member had suffered from a hereditary disease.

6.2 Materials

A 20-page booklet, divided into five parts, was developed for, and used in the study, as outlined below (Appendix A):

Part 1

Part 1 of the booklet contained an information sheet that detailed the aims of the research and included an assurance of confidentiality.

Part 2

Part 2 of the booklet was used to collect demographic data and to assess each participant's current drinking and smoking status.

Part 3

Part 3 was a self-report questionnaire designed to describe the proportionate distribution of where men consumed alcohol and smoked cigarettes, and to measure the quantity and frequency of alcohol consumption and tobacco use, and the frequency of intoxication and binge-drinking.

Part 4

Part 4 included two self-report questionnaires that measured each participant's general physical and mental health, current physical symptomatology, family history of hereditary disease, and personal medical history.

Part 5

Part 5 consisted of a 48-hour time-use diary, designed to collect detailed information on the objective and subjective aspects of men's time use over two days. A set of instructions and an example of how to complete the diary were also provided. Also included was a self-report questionnaire for each day that was designed to assess whether each diary day was a usual day for the participant, and to collect information on each participant's daily alcohol consumption and tobacco use. All participants received the measures in the same order.

Each measure is described below:

6.2.1 Demographic data

6.2.1.1 Age

To measure age, participants were required to record their dates of birth. Age, in years, was subsequently calculated.

6.2.1.2 Marital status

Participants were required to report their marital status. There were six possible responses, which were ‘married’, ‘de facto’, ‘separated’, ‘divorced’, ‘widowed’ and ‘never married’.

6.2.1.3 Education level

To assess educational level, participants were required to indicate the highest level of education attained. Possible responses were: ‘postgraduate degree’, ‘bachelor degree’, ‘trade qualification/apprenticeship’ (vocational training), ‘certificate/diploma’, ‘Secondary (Years 11 or 12)’ (post compulsory high school years) or ‘Secondary (Years 7,8,9,10)’ (compulsory high school years).

6.2.1.4 Occupation

To describe each participant’s occupational status and occupation type, they were asked to answer the question, “What is your current occupation? That is, the job you usually work the most hours and receive income/wages from”.

6.2.1.5 Salary

Participants were requested to report an Australian dollar value that reflected their current salary/wages from all sources, per year, before tax.

6.2.1.6 Number of dependent children in the home

Participants were required to answer the question, “Do you have any dependent children living in your home?” Possible responses were ‘Yes’ or ‘No’. If participants reported having dependent children in the home, they were required to state the number of dependent children living in the home.

6.2.1.7 Current drinker status

Participants' current drinking status was assessed from a question that asked, "In the last 12 months, have you had at least one drink of alcohol?" Possible responses were 'Yes' or 'No'. To identify former drinkers from abstainers, men who did not drink were asked if they had given up drinking, and to report the reason(s) why they had done so (Kozlowski & Ferrence, 1990).

6.2.1.8 Current smoker status

To assess current smoking status, participants were required to describe themselves either as a 'current smoker', 'former smoker', or 'non-smoker'. To ascertain whether former or non-smokers had given up smoking because of health concerns, participants were required to answer the questions, "If you have given up cigarette smoking, please state the reason why you quit" and also, "state when you quit" (Kozlowski & Ferrence, 1990).

6.2.2 Objective and subjective aspects of time use

The objective and affective aspects of men's time use were assessed using a prospective time-use diary. The time-use diary utilised in the current study was based on the diary developed by the Australian Bureau of Statistics (ABS) and has been used with the permission of the ABS (Appendix B). The diary structure was first used by the ABS during the 1992 Australian Time-Use Survey and later for the 1997 Australian Time-Use Survey (ABS, 1992a; 1997c). For the present study, the structure of the diary was modified to gather information on the subjective aspects of men's time use. Participants were required to provide detailed information about how they spent time and their subjective states at 30 minute time intervals throughout the day and night over a consecutive 48-hour period. A set of written instructions and two completed sample pages were provided at the beginning of the diary to indicate the nature of the information and level of detail required.

The diary consisted of four pages. Two pages represented one diary day. Each day was divided into daytime, which ranged from 6.00 a.m. to 5.30 p.m. and nighttime, which ranged from 6.00 p.m. to 5.30 a.m. Thus, the 48-hour data collection period began at 6.00 a.m. on

day one and finished at 5.30 a.m. on day two. Each page represented 12 hours with fixed time-points of 30-minute intervals marked down the left-hand margin. Participants were instructed to use the 30-minute time points to mark the beginning of each activity and to drop an arrow to indicate the activity finishing time. This design departed from the five-minute time interval used by the ABS (1997c). Time points of 30-minute intervals were sufficiently short to describe activities in adequate detail, and large enough to filter activities of short duration irrelevant to the analysis (Ås, 1978; Juster, 1985). Each diary page was divided into eight columns. The first four columns were designed to capture information in relation to the objective aspects of time use. Participants were asked, "What was your main activity?", "What else were you doing at the same time?", "Where were you?", and "Who was with you at home or with you away from home?" Participants were required to record their answers to those questions in their own words. The latter four columns in the diary were designed to measure the subjective aspects of time use. Each time participants recorded a main activity, they were asked to answer, "Why did you do this activity?", "How meaningful is the activity?", "How bored do you feel?", and "How lonely do you feel?"

The question that asked, "Why did you do this activity?" was designed to measure interest in the activity. Participants were required to indicate a number between one and four that corresponded to the most appropriate description of their reason for participating in the activity. Possible responses were: 1 = 'I wanted to, more than anything else', 2 = 'I wanted to, but I wished I was doing something else', 3 = 'I had to', or 4 = 'I had nothing else to do'. Responses of 'I wanted to, more than anything else' indicated interest in the activity (Sansone & Smith, 2000). Alternative responses indicated an absence of interest. To account for split responses to the question, each response was recorded as a dichotomous variable for each activity episode. Responses of 'I wanted to, more than anything else' were recorded as one. Alternative responses were recorded as zero. For descriptive purposes only, three further dichotomous variables were created for responses of 'I wanted to but wished I was doing something else', 'I had to' and for 'I had nothing else to do'. When participants selected one of those three responses, a code of one was recorded and a zero was allocated for interest.

The question that asked, "How meaningful is the activity?" was designed to measure the degree to which the participant perceived each activity as personally meaningful.

Participants were required to rate each main activity on a four-point scale ranging between 1 = ‘Not at all’, 2 = ‘A little bit’, 3 = ‘Fairly meaningful’, and 4 = ‘Very meaningful’.

To measure participants’ feelings of boredom and loneliness across activities, each time a new main activity was recorded, participants were required to respectively rate how bored and lonely they felt during that activity on a four-point scale ranging from 1 = ‘Not at all’ to 4 = ‘Very bored’ or ‘Very lonely’.

Responses to the question, “What was your main activity?” were coded as main activity episodes. A main activity episode was defined as an uninterrupted stream of behaviour characterised by a start and finish time with consistent responses to the questions, “What was your main activity?”, “What else were you doing at the same time?”, “Where were you?”, “Who else was with you at home or with you away from home?”, “Why were you doing the activity?”, “How meaningful is the activity?”, “How bored do you feel?”, and “How lonely do you feel?” (Ås, 1978). The time spent in a main activity episode was then calculated corresponding to the reported start and finish times. The participants’ own main activity responses were coded according to the activity classification system developed by Szalai et al (1972) based on the four typologies of time described by Ås (1978). The four typologies of time were subsequently sub-divided into ten major coding categories (Table 1). The detailed activity codes are presented in Appendix C.

The four typologies of time used in the present study were:

1. Necessary time.

The category of necessary time described activities that served basic physiological needs such as sleeping, eating and personal hygiene. Activities relating to necessary time were coded, but did not form part of the hypotheses under investigation. Therefore, necessary time activities were not included in any analyses.

2. Contracted time.

Contracted time included all activities that were structured by explicit contracts that controlled allocated periods of time. This included activities relating to the labour force, including associated travel time to and from the workplace and waiting time. Educational activities such as training courses, attending schools, universities, and homework, and any associated travel and waiting time were included in this category. Any travel time requiring physical exertion (riding a bicycle/walking to work) was included in the active leisure category.

3. Committed time.

The category of committed time included activities that were the consequences of a previous commitment such as marriage, having children, or buying a house. Domestic activities such as childcare, housework, caring for the sick, elderly, frail, disabled, helping others and shopping for the household or members of the household were included in this category. In addition, all voluntary work activities and community participation activities were described in the committed time category.

4. Free time.

Free time was the amount of time that remained after time for necessary, contracted and committed activities were accounted for. The free time typology was further categorised into active leisure, passive leisure, and social activities. Active leisure included all activities relating to sport, exercise, and outdoor activities, games, hobbies, arts and crafts, drama, and holiday travel. Passive leisure included all activities that required little or no mental or physical exertion such as watching television, reading, playing computer games, and listening to the radio or music, relaxing, thinking, resting, doing nothing in particular, or driving as a pastime. Social activities included all responses relating to socialising with other people at home, or at other people's homes, or at other places, and attendance at entertainment or cultural venues, or sporting events.

Table 1
Major Coding Categories

Typology of time	Activity coding categories
Necessary time	Personal care
Contracted time	Labour force
	Education
Committed time	Domestic activities
	Childcare
	Purchasing goods and services
	Voluntary work and community participation
Free time	Social Life and entertainment
	Active leisure
	Passive leisure

Responses in the column headed, “What else were you doing at the same time?” were coded as secondary activities. Secondary activities were not included in the hypotheses under investigation, and they did not form part of the analyses. The information relating to secondary activities, when the activity took place, and who else was present with the participant during the activity was used to supplement activity descriptions in the diary to improve the quality of the activity coding.

Analysis of the diary data was conducted at the participant summary level (Harvey, 1999; Robinson, 1999). Based on the suggestions of Juster, Hill, Stafford, and Parsons (1983), Robinson (1999), and Harvey (1999), an episode file was first created. The number of minutes men spent on each main activity episode for each diary day were then combined and weighted to compute the total number of minutes spent in each of the 10 activity coding categories for an average or synthetic week. The synthetic week provides a measure of how time is spent over a whole week rather than on any given day (Robinson, 1980). Not all diaries included weekend days (see Table 3). To retain all cases for analysis, the mean was calculated from available data and was used to replace missing weekend data prior to analysis, as recommended by Tabachnick and Fidell (2001). For example, if one weekday and one weekend diary were collected, the weekday diary was multiplied by 5 and added to the weekend diary multiplied by 2. If two weekday diaries were collected, they were multiplied by 2.5 and added to the weekend diary mean multiplied by 2. The average weekly number of minutes spent on each activity coding category were later combined according to whether the activity occurred in contracted time, committed time, or free time.

The single-item ratings of meaningful activity, loneliness, boredom, and interest were respectively summed across each main activity episode according to which of the 10 activity coding categories the responses occurred in. Similar to the method used by Haworth and Ducker (1991) and Haworth and Hill (1992), mean ratings of meaningful activity, interest, loneliness, and boredom were calculated for each of the 10 activity coding categories, and then according to whether the responses occurred during contracted time, committed time, or free time.

The reliability and validity of the time-use diary have been well established (ABS, 1992d; 1997e; Juster & Stafford, 1991; Robinson, 1985). The reliability of time-use diary data has been shown in the Multinational Time-Use Study (Szalai et al., 1972), and in American and Australian surveys (ABS, 1992d; 1997e; Robinson, 1977; 1988; Robinson & Godbey, 1999). Reliability coefficients of between .85 and .95 have been reported for time-use diary data in US samples (Robinson, 1977). Forty-eight hour diaries have been shown to be more reliable than 7-day diaries, and as reliable as 24-hour diaries (ABS, 1987; 1992d; 1997e).

Evidence for the validity of time-use diaries has been provided from studies that have compared time diary estimates of activity patterns with observational studies (Chapin, 1974), video cameras in the home (Bechtel, Achepohl, & Akers, 1972), ESM diary data (Robinson, 1985), telephone interviews in which participants were asked to report activities for a particular random hour during the day (Robinson, 1985), spousal reports of people present during specific activities (Juster, 1985), and objective utility meter measures of home energy use (Hill, 1985). Correlations between time-use diary estimates and these other measures of activities have ranged between .68 and .93.

Single-item ratings of subjective states were advantageous for their brevity and to account for variations in ratings across and within activity types (Caldwell et al., 1999; Graef et al., 1983). Single-item ratings have been shown to be valid and reliable indicators of how people feel across their daily activities (Carli et al., 1988; Csikszentmihalyi & Larson, 1987; Graef et al., 1983; Kubey & Csikszentmihalyi, 1990; Larson et al., 1994; 1997; Robinson, 1977; Sullivan, 1996).

To further ensure the quality of the diary coding by assessing any adverse reasons for atypical days, after completing the diaries for each day, participants were required to answer the question, “Do you usually work in a paid job on this day?” Responses were either ‘Yes’ or ‘No’. Participants were also required to state whether the diary day was a usual day, holiday, whether they were sick or injured, whether they took time off from normal activities, whether the day was devoted to caring for children, or to state other reasons why the day was not usual (ABS, 1997e).

6.2.3 Mental and physical health

Participants’ mental and physical health status was assessed using the 12-Item Short Form Health Survey (SF-12). This questionnaire is a standardised international self-report measure containing 12 items that provide a generic measure of health status (Ware, Kosinski, & Keller, 1996; 1998). Items on the SF-12 assess eight health concepts; physical functioning, role limitations due to physical health problems, bodily pain, general health, vitality, social functioning, role limitations due to emotional problems and psychological distress and well-being. Scores derived from these items form a Physical Component Summary (PCS) scale and a Mental Component Summary scale (MCS). The PCS focuses on limitations in physical functioning, role limitations due to physical health problems, general physical health and bodily pain. Two items measure limitations in physical functioning, and these items assess limitations due to health problems in moderate and more vigorous physical activities. A further two items measure role limitations due to physical health problems to assess the extent to which physical health interferes with usual daily activities. Bodily pain is measured by one item that assesses the degree to which pain interfered with normal daily activities. General physical health is assessed by one item that measures personal evaluations of one’s overall health.

The MCS focuses on vitality, social functioning, and social role limitations due to emotional problems and mental health. One item assesses vitality and focuses on the amount of energy felt. Social functioning is measured by one item that evaluates the degree to which physical health or emotional problems interfered with daily social activities. Role limitations due to emotional problems are measured by two items that assess the extent to which emotional problems interfere with regular daily activities. A further two items are used to measure

mental health. These two items assess the degree of psychological well-being such as feeling peaceful and calm, and psychological distress, such as feeling downhearted and blue.

The PCS-12 and MCS-12 scales were scored using norm-based methods. All 12 items were used to score both component summary scales using physical and mental regression weights and a constant for both measures from the general United States population (Ware et al., 1998). Both scales were transformed to have a mean of 50 and a standard deviation of 10 in the general United States population. Higher scores reflected better health and well-being.

The SF-12 is a shortened (12-item) version of the SF-36. The SF-12 was developed to produce a brief, two-minute, measure of health status that would reproduce the SF-36 MCS and SF-36 PCS scales, while capturing all eight health concepts using only one or two SF-36 items for each health concept. All SF-12 items have been derived from the SF-36. The SF-36 is a standardised self-report measure of physical and mental health status and is one of the most widely used self-report health measures in the United States, the United Kingdom, and Australia (Stevenson, 1996; Ware, Kosinski, Bayliss, McHorney, Rogers, & Raczek, 1995; Ware, Kosinski, & Keller, 1994). It consists of 36 items to assess the eight health concepts referred to above for the SF-12. The eight health scales form two summary scales: a Physical Health Summary Scale (SF-36 PCS) and a Mental Health Summary Scale (SF-36 MCS). The SF-36 has been found to be a highly valid and reliable method of measuring mental and physical health (Ware et al., 1994).

During the construction of the SF-12, 10 items from the original SF-36 were found to explain at least 90% of the variance in the SF-36 PCS and SF-36 MCS scales in the general United States population. These 10 items represented six of the eight health concepts, and two more items were added to produce a 12-item scale to represent the eight health concepts (Ware et al., 1996). The 12 selected items achieved a multiple R^2 of .91 in the prediction of SF-36 PCS scores and .92 in the prediction of SF-36 MCS scores in the general United States population (Ware et al., 1996). In only one validation study conducted in Australia, the 12 items accounted for 82% of the variance in SF-36 MCS scores and 56% of the variance in SF-36 PCS scores in the Australian population (McCallum & Anderson, 1997).

Test-retest reliability coefficients for the SF-12 have ranged between .76 and .89 in the United States and United Kingdom general populations (Ware et al., 1996; 1998). The reliability and validity of the SF-12 has been established in a variety of patient groups and for many differing chronic conditions (Jenkinson, Layte, Jenkinson, Lawrence, Petersen, Paice, & Stradling, 1997; Ware et al., 1996; 1998). Its discriminant validity was demonstrated in the Australian population during the Australian Mental Health and Wellbeing national survey (ABS, 1998).

6.2.4 Physical symptomatology

To assess participants' recent frequency and severity of physical symptoms, they were required to complete the Symptom Severity Checklist (SSC). The SSC is a self-report measure containing 34 common symptoms, such as 'feeling sick', 'chest pain', 'cannot sleep', 'feeling stiff' and 'sore throat'. Participants responded by indicating how frequently they had experienced each symptom in the past four weeks on a four-point scale ranging from 1 = 'Not at all', 2 = 'A little/slightly', 3 = 'Quite a lot', to 4 = 'A great deal'.

The items were extracted from the Pennebaker Inventory of Limbic Languidness (PILL) (Pennebaker, 1982), which is a 54-item symptom checklist. Based on advice from General Practitioners about physical symptoms recurrently reported during consultations and information from general medical patients, Salmon, Sharma, Valori, and Bellenger (1994) modified the PILL to produce a shortened 34-item inventory of somatic symptoms most frequently encountered in general medical settings.

Using Principal Component Analysis, Salmon et al (1994) found that items on the SSC represented five symptom scales: (1) abdominally-focussed symptoms, (2) cold/influenza symptoms, (3) musculo-skeletal symptoms, (4) somatic anxiety symptoms, and (5) other symptoms. Abdominally-focussed symptoms includes five items such as 'upset stomach', 'stomach pain', 'feeling sick', 'being sick', and 'headache'. The six items that comprised the cold/influenza symptoms scale were 'sore throat/cough', 'runny nose', 'high temperature', 'shortness of breath', 'difficulty swallowing', and 'difficulty breathing'. Nine items represented the musculo-skeletal symptoms scale, which included 'feeling stiff', 'pains in arms/legs', 'swelling', 'cannot sleep', 'aches all over', 'cramps', 'tired', 'weak', and 'back pain'. Five items comprised the somatic anxiety symptom scale, which included 'heart irregularity',

'eyes watering', 'shaking/trembling', 'dizzy' and 'cold all over'. Nine items, which represented other symptoms that are frequently reported in general medical settings, but did not load on any principal component, comprised the other symptoms scale. These items included 'indigestion/heartburn', 'diarrhoea', 'constipation', 'skin problems', 'blurred vision', 'ringing in ears', 'chest pains', 'sprains', and 'other injuries'.

Internal consistency reliability coefficients ranging between .88 to .91 and test-retest reliability coefficients ranging between .79 to .83 have been reported for the Pennebaker Inventory of Limbic Languidness (PILL) (Pennebaker, 1982). Scores on each of the SSC physical symptoms scales correlated moderately and significantly with scores on the General Health Questionnaire (Goldberg, 1972) except for the cold/influenza symptoms scale.

6.2.5 Personal medical history

To measure participants' medical history, they were asked to report whether they had ever been diagnosed with a medical illness, disability or mental illness or suffered from any disorder, disease or chronic pain. Participants were required to describe the illness/disorder, and report the approximate date of diagnosis and degree of recovery.

6.2.6 Family medical history

Participants were asked to report if any biological relative had suffered from any condition such as diabetes, cancer, epilepsy, and heart disease and/or had died from any cause. Participants were also required to report the approximate age at onset of the condition and the age at death, if applicable.

6.2.7 Alcohol consumption

Total alcohol consumption was obtained using the specific-settings measure of alcohol consumption. The measure includes a series of questions about the frequency of visiting 14 specific settings over a period of four weeks prior to the survey (i.e. spending a quiet evening at home, spending quiet time at home during the day, work related functions at workplace, going to a pub, bar, or tavern, attending a barbeque, party, social gathering or wedding,

having friends or relatives visit, spending time at someone else's home, going to a restaurant for an evening meal, engaging in outdoor or leisure activity, engaging in sports activity, going to a club or meeting, going to a restaurant for lunch, going to a concert or festival, and going to the football or other sporting event), the usual frequency of drinking and the usual amount and type of alcohol consumed in each setting (Clark, 1985; Holyfield et al., 1995; Kunz & Graham, 1996; Single & Wortley, 1993; 1994).

For example, one questionnaire item asked, "On average, how often did you go to a pub, bar or tavern?" Participants were required to reply by assigning a value ranging from 0 = 'Never', 1 = 'Once a week', 2 = 'Twice a week', 3 = 'Three times a week', 4 = 'Four times a week', 5 = 'Five times a week', 6 = 'Six times a week', 7 = 'Seven times a week' to 8 = 'More than 7 times a week'. The questionnaire then asked, "How often did you drink during these activities?" with responses ranging from 0 = 'Never', 1 = 'Less than half the time', 2 = 'About half the time', 3 = 'About three-quarters of the time', to 4 = 'All of the time.' Participants who reported drinking on this occasion were then asked to state in their own words the number of alcohol drinks they usually drank during that occasion, the type of drink (i.e. light or heavy beer, red/white wine, scotch, bourbon, gin), and the size of the container (i.e. glass, stubbie, bottle, etc). The number and type of alcoholic beverages and sizes of the containers were converted to standard drinks based on the standard measures of absolute alcohol content recommended by the Australian Drug Foundation (2001).

The responses relating to frequency of drinking ("How often did you drink during these activities?") were recoded so that 0 = Never, .25 = Less than half the time, .50 = About half the time, .75 = About three-quarters of the time, and 1 = All the time. Participants' reports of how often they attended each of the 14 specific settings were multiplied by the numerical code for the frequency of drinking to arrive at an average number of drinking occasions when participating in each of the 14 social contexts over a period of one week. The average number of drinking occasions per week across each specific setting was multiplied by the total number of standard drinks each participant reported consuming in each setting to arrive at a total number of standard drinks consumed per week, per participant, per setting. The total number of standard drinks was converted to grams of alcohol with one standard drink equivalent to 10 grams of alcohol (NHMRC, 1991; Turner, 1990). That computation provided estimates of the total weekly grams of alcohol consumed across each of the 14

specific settings. To obtain the overall total weekly alcohol consumption, the total weekly grams of alcohol consumed in each setting was summed.

The reliability and validity of the specific settings method of measuring alcohol consumption has been well established in Canadian and New Zealand samples, and has been shown to be more valid and reliable than standard quantity-frequency and diary measures of alcohol consumption (Casswell, et al., 1993; Single & Wortley, 1993; 1994).

In a separate questionnaire contained in the time-use diary, participants were asked to record the number of alcoholic beverages consumed for each diary day, as well as the amount and type of alcohol consumed (i.e. 4 stubbies of beer, 2 six ounce glasses of red wine). These data were converted to standard drinks and then to total grams of alcohol using the same Australian Drug Foundation (2001) and NHMRC (1991) guidelines as described above for the specific-settings measure. The total grams of alcohol consumed on diary days one and two were summed and the mean daily amount of alcohol consumed was calculated. This figure was then multiplied by seven to provide an estimate of the total grams of alcohol consumed over one week. This measure was used as a prospective index of total weekly alcohol consumption with which to compare and validate participants' responses on the specific-settings measure of alcohol consumption.

6.2.8 Binge drinking

The specific-settings measure was used to assess participants' frequency of binge drinking. For each of the 14 specific settings, participants were asked, "How often did you drink more than 4 drinks during these activities?" Responses ranged from 0 = 'Never', 1 = 'Less than half the time', 2 = 'About half the time', 3 = 'About three-quarters of the time', to 4 = 'All the time'. Responses to that question were recoded so that 0 = Never, .25 = Less than half the time, .50 = About half the time, .75 = About three-quarters of the time, and 1 = All the time. The average number of drinking occasions at each of the 14 specific settings was multiplied by the numerical codes for frequency of binge drinking to arrive at an estimate of the weekly episodes of binge drinking at each of the 14 specific settings. The number of weekly episodes of binge drinking at each of the 14 specific settings were then combined to calculate a total number of binge drinking occasions per week.

6.2.9 Intoxication

The specific-settings measure was also used to assess the participants' frequency of intoxication. For each of the 14 specific settings, participants were also required to respond, on a four-point scale, to the question "How often did you get drunk during these activities?" Responses ranged from 0 = 'Never', 1 = 'Less than half the time', 2 = 'About half the time', 3 = 'About three-quarters of the time', to 4 = 'All the time'. Responses to that question were recoded so that 0 = Never, .25 = Less than half the time, .50 = About half the time, .75 = About three-quarters of the time, and 1 = All the time. The number of drinking occasions at each of the 14 specific settings was multiplied by the numerical codes for frequency of intoxication to arrive at an estimate of the weekly episodes of intoxication at each of the 14 specific settings. The total number of weekly episodes of intoxication was then calculated.

6.2.10 Tobacco use

The specific-settings approach was also used to assess current smokers' smoking volume and frequency. The questionnaire included a series of questions about each participant's smoking behaviour over the last four weeks in 14 social settings. These sets of questions were identical to the above except each participant was asked, "How often did you smoke during these activities?" Responses ranged from 0 = 'Never', 1 = 'Less than half the time', 2 = 'About half the time', 3 = 'About three-quarters of the time', to 4 = 'All the time'. Responses to the question relating to frequency of tobacco use ("How often did you smoke during these activities?") were recoded so that 0 = Never, .25 = Less than half the time, .50 = About half the time, .75 = About three-quarters of the time, and 1 = All the time. Participants were also asked the question, "At times when you smoked, how many cigarettes did you smoke?" Participants were required to state the number of cigarettes they smoked during those activities. Participants' reports of how often they attended at each of the 14 specific settings were multiplied by the numerical code for the frequency of smoking to arrive at an average number of smoking occasions for each of the 14 social settings over a week. The average number of smoking occasions per week for each specific setting was then multiplied by the number of cigarettes each participant reported smoking in each setting to arrive at an estimated total number of cigarettes smoked per setting, per week, per

participant. The total number of cigarettes smoked per week in each setting was summed to arrive at an estimated total number of cigarettes smoked over a week for each participant.

In addition, a separate questionnaire in the time-use diary requested participants to record the total number of cigarettes/cigars smoked during each diary day. Participants were instructed to also record the cigarettes' brand and tar content in milligrams. The total number of cigarettes smoked for diary days one and two were summed, divided by two, and multiplied by seven to estimate the total number of cigarettes smoked over a period of one week. This questionnaire was included to provide a prospective measure of total tobacco use to compare and validate with responses to the specific-settings measure of tobacco use.

6.3 Procedure

Data collection occurred during three waves. The first data collection period ranged from 7 December 1998 to 6 June 1999. The second wave of data collection occurred between the dates 5 December 2000 and 23 April 2001, and the third wave of data collection occurred between 15 June 2002 and 30 September 2002. This ensured an equal representation of days, months, and seasons of the year (Robinson, 1999).

During the period 7 December 1998 to 6 June 1999, an article outlining the aims of the research appeared in three local newspapers in metropolitan Melbourne, Australia. The local newspapers targeted were The Williamstown Mail on 31 March 1999, The Moreland Sentinel on 5 April 1999 and The Brimbank Independent on 6 April 1999. The article also invited volunteers to participate in the research by contacting the researcher on a University telephone service. In addition to the newspaper articles, participants were also recruited via radio. On 22 March 1999, at 1.15 p.m., the researcher was interviewed on Melbourne radio station 3AK, describing the nature and the aims of the research and inviting participants to volunteer to participate in the research again by contacting the researcher on a University telephone service. During 5 December 2000 and 23 April 2001, and between 15 June 2002 and 30 September 2002, a further two samples of volunteers were personally approached by or referred to the researcher.

At the time of initial contact, volunteers were verbally informed about the aims of the research and were asked about their willingness to complete a set of questionnaires and a time-use diary over two days. Volunteers were advised that the information they provided would be confidential. Volunteers were also advised that they would be provided with a set of instructions, an example of how to complete the time-use diary, and a mobile telephone number to enable communication with the experimenter if any difficulties arose during completion of the questionnaires or the time-use diary.

Volunteers were requested to provide the researcher with a mailing address. The time-use diary, two consent forms, and a reply-paid envelope were sent to each volunteer by mail. To achieve a representative sample of days of the week, each participant was assigned specific days for which to complete their diary (Harvey, 1999; Juster, 1985; Kalton, 1985), and the cover page of the booklet recorded those two selected days. The cover page also specified a University landline telephone number and mobile telephone number if the participants required any assistance completing the questionnaires or diary. Also contained in the time-use diary was a set of questionnaires, detailed instructions on how to complete the diary, a written example of how to complete the diary, and a blank time-use diary for two days. The time-use diary also housed an information sheet detailing the aims of the study and drew attention to the confidential nature of the data. It also emphasised the importance of recording all activities in the diary in as much detail as possible, and instructed participants to complete both consent forms (one copy for themselves), and to complete and return by mail in the reply-paid envelope the time-use diary with one signed copy of the consent form. A copy of the consent form is provided in Appendix D.

A total of 475 time-use diaries were distributed. A total of 207 booklets were returned, resulting in a response rate of 43.58%. Twenty-one diaries were excluded due to missing and incomplete diary data. The final number of participants was 186 contributing 370 diary days and 10,138 activity episodes. Two people provided only a single diary day (1.86%), which is similar to the proportion of single day diaries received in the 1992 and 1997 Australian Time-Use surveys (ABS, 1997e). Thus, an overall response rate of 39.16% was achieved. The assurance to participants of confidentiality at initial contact precluded any opportunity to follow-up those who did not respond. Response rates for time-use surveys range between 60% and 100% in Europe (Converse, 1972; Thrane, 2000), 84.4% in Australia

(ABS, 1997e), and 56% in the United States (Mattingly & Bianchi, 2003). Response rates are higher when surveys are closely associated with Government agencies than when conducted by private or academic bodies (Converse, 1972). Although the response rate in the current study is lower than other time-use surveys, it is not dissimilar to other mail-based health, alcohol, and physical activity surveys in Australia, Europe, and the United States (Bongers, 1998; Picavet, 2001; Sallis, Hovell, & Hofstetter, 1992; Salmon et al., 2003).

CHAPTER 7

DATA PREPARATION

7.1 Data screening

Scores on all variables were examined using Statistical Package for the Social Sciences (SPSS) Version 8.0 to assess the accuracy of data entry, missing values, and tests of the assumptions of normality, multivariate normality, linearity, and homoscedasticity (Tabachnick & Fidell, 2001). There were 32 cases missing for income (24% of the sample). Given the high number of missing values on the income variable, it was deleted from any analysis (Tabachnick & Fidell, 2001). There were 27 missing cases for total weekly number of cigarettes smoked. Further examination of the data revealed that all of the missing data related to men who described themselves as non-smokers. For descriptive purposes, all missing data in relation to weekly number of cigarettes smoked were replaced with a zero. Given the large number of missing values for this variable, and the small number of participants classified as current smokers, the total weekly number of cigarettes smoked and the cigarette tar content variables were excluded from multivariate analyses.

There were six missing values for the SSC total score, due to one missing value on the musculo-skeletal symptom subscale and five missing values on the other symptoms subscale. There was also a single missing value on the MCS-12 summary scale and the PCS-12 summary scale. There were six missing values for total weekly consumption of alcohol, nine missing cases for weekly binge drinking, and seven missing values for weekly intoxication. To retain all cases for analysis, all missing values were replaced by the harmonic mean for all cases (Tabachnick & Fidell, 2001).

The distribution of scores on all variables departed from normality. Transformations proceeded only where the shapes of the distributions were improved (Tabachnick & Fidell, 2001), as shown in Table 2. For those variables not transformed, appropriate steps were taken in subsequent chapters to adjust for any violations to the assumption of normality.

Table 2
Data Transformation of Variables

Variable	Shape	Transformation
Meaningful activity contracted time	Negatively skewed	No
Meaningful activity committed time	Negatively skewed	No
Meaningful activity free time	Negatively skewed	No
Loneliness contracted time	Positively skewed	No
Loneliness committed time	Positively skewed	No
Loneliness free time	Positively skewed	No
Boredom contracted time	Positively skewed	Logarithm
Boredom committed time	Positively skewed	Logarithm
Boredom free time	Positively skewed	Logarithm
Interest free time	Negatively skewed	No
Time in active leisure	Positively skewed	Logarithm
Time in passive leisure	Positively skewed	Logarithm
Time in social activities	Positively skewed	Logarithm
Alcohol in pubs, bars, taverns	Positively skewed	No
Alcohol quiet evening at home	Positively skewed	No
Weekly alcohol consumption	Positively skewed	Square root
Weekly binge drinking	Positively skewed	Logarithm
Weekly intoxication	Positively skewed	Logarithm
PCS-12	Negatively skewed	Reflected and square root and reflected
MCS-12	Negatively skewed	Reflected and square root and reflected
SSC	Positively skewed	Inverse and reflected

For grouped data analysis, marital status was categorised into two groups. Men who described themselves as being married were allocated to the married group. Men who reported having never married, being in a *de facto* marriage, divorced, separated, or widowed were categorised as unmarried. Age was also categorised into two groups. Men who were younger than the mean age (18 to 38 years) were allocated to one group and men who were older than the mean age (39 years and over) were allocated to the older age group.

For continuous data analysis, categorical variables were dummy coded (Tabachnick & Fidell, 2001). These included marital status (1 = married, 0 = other); prior health status (0 = no report of previous illness/condition, 1 = 1 or 2 previous illnesses/conditions); family history of illness; 0 = no family history of illness, 1 = family history of 1 or more illness conditions); occupation status (1 = employed, 0 = other); former smoker (1 = former smoker, 0 = other); and current smoker (1 = current smoker, 0 = other). Age in years was utilised, but its distribution was positively skewed and was logarithmically transformed. Education status was coded on a rating scale from 1 = Postgraduate to 6 = Secondary (Years 7-10).

Univariate and multivariate outliers were assessed using the SPSS REGRESSION procedure (Tabachnick & Fidell, 2001). Univariate outliers with an extreme standardised score (Z score ± 3.29 , $p < .001$) on one or more variables were deleted. For multivariate outliers, the Mahalanobis distance of each case to the centroid of all cases was computed. Any outliers that exceeded the critical χ^2 value, with degrees of freedom equal to the number of independent variables at $p < .001$ were deleted (Tabachnick & Fidell, 2001).

7.2 **Distribution of days of the week**

The results in Table 3 showed a small imbalance across each day of the week. Friday was slightly over-represented and Sunday was slightly under-represented.

Table 3
Distribution of Diary Days

Day	Day 1	Day 2	Total	Percentage
Sunday	21	22	43	11.7
Monday	32	21	53	14.1
Tuesday	21	32	53	14.1
Wednesday	26	21	47	12.7
Thursday	33	25	58	15.7
Friday	32	31	63	16.9
Saturday	21	34	55	14.8
Total	186	186	372	100.0

7.3 **Reliability and validity analyses**

7.3.1 **Reliability of diary data**

The reliability of the diary data was assessed by the computation of reliability coefficients. Reliability coefficients may range from 0 to 1.0 and a higher reliability coefficient indicates greater reliability. It has been suggested that reliability coefficients of .7 or higher indicate that a measure is reliable (Aron & Aron, 1994; de Vaus, 1995).

Given that data was collected from each participant for two consecutive days, the test-retest method was used to evaluate the reliability of the diary measures. The test-retest reliability for each measure was evaluated by comparing scores on each measure on day one with the scores on each measure on day two and calculating a reliability coefficient using Pearson's Product-Moment correlations (*r*) between scale scores. Reliability coefficients were computed for the number of activity episodes (ABS, 1997e), and for the mean scores for boredom, loneliness, meaningful activity, and interest. The reliability coefficients are presented in Table 4.

Table 4
Reliability Coefficients (*r*) Between Day 1 and Day 2

Measure	Reliability coefficient (<i>r</i>) between day 1 and day 2
Total number of activity episodes	.71**
Ratings of meaningfulness	.79**
Ratings of boredom	.75**
Ratings of loneliness	.73**
Ratings of interest	.68**

***p* < .01

Statistically significant high correlation coefficients were reported for each measure between day one and for day two. Although the reliability coefficients for the measure of interest was just below .7, the correlation coefficient were statistically significant at *p* < .01. Furthermore, responses may have varied across day one and day two according to whether each day alternated between a weekday and a weekend day. Therefore, all variables were judged to be sufficiently reliable.

7.3.2 Reliability of alcohol consumption, tobacco usage, and health measures

The two health measures, and the measures of total weekly alcohol consumption, weekly intoxication, weekly binge drinking, and weekly tobacco usage were assessed for reliability using methods to evaluate the internal consistency of each measure. The internal consistency of the measures was obtained by halving the numbers of items of each measure

in all possible combinations and calculating a Product-Moment correlation coefficient for each division. An average of the Product-Moment correlation coefficients was then computed to provide a reliability coefficient for each measure using Cronbach’s alpha (Aron & Aron, 1994). The results of the tests for internal consistency are shown in Table 5. The obtained reliability coefficients ranged between .81 to .97, indicating high internal consistency reliability for all measures.

Table 5
Reliability Coefficients of the SF-12 Summary Scales and the SSC Scale and Subscales, and Specific-Settings Measurement of Weekly Alcohol Consumption, Weekly Intoxication, Weekly Binge Drinking, and Weekly Tobacco Usage

Measure	Cronbach Alpha
Symptom Severity Checklist	.88
- Abdominal subscale	.78
- Cold/Influenza subscale	.70
- Musculo-skeletal subscale	.75
- Somatic subscale	.74
- Other symptoms subscale	.60
SF-12 Health Survey	.81
Specific Settings Measures	
- Volume of Weekly Alcohol Consumption	.86
- Weekly Intoxication	.88
- Weekly Binge Drinking	.92
- Weekly Tobacco Usage	.97

7.3.3 Validity of health measures

To test the concurrent validity of the SF-12 and the SSC, Pearson’s Product-Moment correlation coefficients (*r*) were calculated to compare PCS-12 and MCS-12 scores with the SSC scores. The results showed that SSC scores correlated moderately and significantly with PCS-12 scores (*r* = -.33, *p*=.0001) and with MCS-12 scores (*r* = -.42, *p*=.0001).

To test the construct validation of the health measures, participants were categorised according to a history of none, one or two physical illnesses/conditions. Mean scores on the PCS-12, MCS-12, and SSC were computed for each group and compared. Table 6 shows that PCS-12 and MCS-12 scores declined and SSC scores increased as the number of

physical illnesses/conditions increased. These results show that the SF-12 was a valid measure of self-assessed health and the SSC is a valid measure of physical symptomatology.

Table 6
Means and Standard Deviations for PCS-12, MCS-12 and SSC by Number of Reported Physical Illnesses/Conditions

Number of illnesses/conditions	PCS-12		MCS-12		SSC	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
0	54.69	4.95	49.28	9.26	1.28	0.23
1	47.73	9.11	48.35	10.23	1.34	0.23
2 or more	40.78	12.52	46.91	14.59	1.59	0.27

7.3.4 Validity of estimates of weekly alcohol consumption

The concurrent validity of the specific-settings approach to the measurement of total weekly alcohol consumption, weekly episodes of intoxication, and weekly episodes of binge drinking was assessed. The estimates of total weekly alcohol consumption, weekly episodes of intoxication, and weekly episodes of binge drinking across all 14 specific settings, and the estimates of weekly grams of alcohol consumed generated from the diary data were all compared. Measures were paired and Pearson’s Product-Moment correlation coefficients were calculated between scores on each pair of measures. The results showed that total weekly alcohol consumption across all of the 14 specific settings correlated highly and significantly with weekly episodes of binge drinking ($r = .87, p=.0001$), weekly episodes of intoxication ($r = .75, p=.0001$), and weekly grams of alcohol calculated from the diary data ($r = .66, p=.0001$). Weekly intoxication correlated significantly and highly with weekly binge drinking ($r = .80, p=.0001$) and moderately with weekly grams of alcohol calculated from the diary data ($r = .48, p=.009$). Weekly binge drinking correlated significantly with weekly grams of alcohol calculated from the diary data ($r = .70, p=.0001$).

To further test the validity of the specific-settings approach to the measurement of alcohol consumption, the mean weekly grams of alcohol consumed across all 14 specific settings ($M=192.46, SD=225.35$) was compared with the mean weekly grams of alcohol consumed

calculated from the diary data ($M=172.77$, $SD=149.76$). The specific-settings measure yielded a higher mean consumption than the prospective diary. A paired sample t -test revealed that the difference was not significant ($t(168) = 1.48$, $p>.05$).

The findings in this smaller sample provided further evidence that there is an under-reporting of alcohol consumption in diary measures of alcohol consumption. Although the under-reporting was not significant, it supported the conclusion that in comparison to prospective diary methods, the specific-settings approach to measuring alcohol consumption yielded the highest mean consumption score, and therefore, it may be the most valid method (Room et al., 1995; Single & Wortley, 1993). For this reason, the specific-settings measure of alcohol consumption was retained for analyses and the diary measure of alcohol consumption was excluded.

7.3.5 Validity of estimates of tobacco use

The concurrent validity of specific-settings measure of tobacco use was assessed. This was conducted by comparing the estimates of weekly tobacco use across all 14 specific settings and the estimates of weekly tobacco use generated from the diary data. Pearson's Product-Moment correlation analysis was performed on the weekly number of cigarettes smoked across all 14 specific settings and the weekly number of cigarettes smoked from the diary data. The resultant correlation coefficient revealed that both measures were moderately and significantly related ($r = .34$, $p=.0001$).

A paired samples t -test was conducted to compare the mean number of cigarettes smoked in a week in the 14 specific settings ($M=153.75$, $SD=328.25$) with the mean number of cigarettes smoked in a week calculated from the diary data ($M=95.14$, $SD=46.74$). Although the mean number of cigarettes smoked in a week derived from the specific-settings measure was higher than the mean number of cigarettes smoked over a week generated from the prospective diary, the difference was not significant ($t(35) = 1.10$, $p>.05$). As the specific-settings approach to measuring tobacco use yielded a higher mean level of tobacco use, the number of cigarettes smoked recorded on the diary was eliminated from further analyses.

SECTION 3: RESULTS AND DISCUSSION

CHAPTER 8

PHASE 1: DIFFERENCES BETWEEN STRUCTURED AND UNSTRUCTURED TIME

8.1 Aims

The aims of phase 1 were to:

1. Describe variations in structured time and unstructured time use, and to describe marital status and age variations in structured time and unstructured time use.
2. Examine the degree to which men's ratings of meaningful activity, boredom, and loneliness were dependent on the type of time, and whether time was experienced differentially according to marital status and age.
3. Determine the degree to which men's childcare and domestic labour activities were distinguished from leisure time activities.

8.2 Hypotheses

It was hypothesised that:

1. In comparison to structured time, ratings of meaningful activity would be lower during unstructured time.
2. The differences in ratings of meaningful activity during structured and unstructured time would be greater for unmarried men than for married men, and greater for younger men than for older men.
3. Ratings of boredom and loneliness would be lower during unstructured time than during structured time.

4. The differences in ratings of boredom and loneliness during structured and unstructured time would be greater for married men than for unmarried men, and greater for older men than for younger men.
5. There would be no differences in ratings of meaningful activity, boredom, and loneliness during contracted time and committed time.

8.3 Research design

To investigate the differences in ratings of meaningful activity, loneliness, and boredom during contracted time, committed time, and free time, and to explore whether those differences varied according to marital status and age, a $2 \times 2 \times 3$ doubly multivariate analysis of variance (doubly MANOVA) was conducted using the SPSS MANOVA procedure. A doubly MANOVA is appropriate for research designs that combine independent groups and repeated measures with multiple dependent variables (Tabachnick & Fidell, 2001). The dependent variables were ratings of meaningful activity, boredom, and loneliness. The between-subjects variables were marital status and age. Because each dependent variable was measured over different time periods, and to circumvent the assumption of sphericity, the within-subjects independent variable of typology of time (contracted time, committed time, and free time) was treated multivariately (Tabachnick & Fidell, 2001).

A Roy-Bargman step-down analysis was performed to adjust for the correlated dependent variables (Tabachnick & Fidell, 2001). The dependent variables were prioritised according to theoretical considerations. Meaningful activity was deemed to be the highest priority dependent variable, and was tested using a univariate analysis of variance procedure (ANOVA) (Tabachnick & Fidell, 2001). Loneliness was subsequently entered and tested with meaningful activity as a covariate. Boredom was entered as the final dependent variable and was tested with meaningful activity and loneliness as covariates (Tabachnick & Fidell, 2001). The error rate of 5% was controlled for during step-down analysis by the apportionment of alpha at .017 for each dependent variable (Howell, 2002).

The doubly MANOVA tested three main effects of time, age, and marital status; three two-way interaction effects of time by age, time by marital status, and marital status by age; and

one three-way interaction of time by age by marital status. The main effect of time tested hypotheses 1, 3, and 5. The time by marital status and the time by age interactions tested hypotheses 2 and 4.

The hypothesis testing that follows is preceded by descriptive statistics of the variations in structured and unstructured time use for the sample, by marital status, and by age. The descriptive statistics for ratings of meaningful activity, boredom, and loneliness during each typology of time and ratings of meaningful activity, boredom, loneliness, and interest for each free time activity coding category are also presented, for the sample, by marital status, and by age.

8.4 **Results**

8.4.1 **Descriptive statistics**

Means and standard deviations for the minutes per week spent in committed time, contracted time and free time, as well as for the three free time activity coding categories for the sample, by marital status, and by age group are presented in Tables 7, 8, 9, and 10. The means and standard deviations for the ratings of meaningful activity, boredom, and loneliness during committed time, contracted time, and free time for the sample and by marital status are presented in Table 11, and by age category in Table 12. The means and standard deviations for ratings of meaningful activity, boredom, loneliness, and interest, for the three free time activity coding categories for the sample and by marital status are presented in Table 13. Table 14 shows the descriptive statistics for each age category. The percentage of responses to the question “Why were you doing this activity?”, used to measure interest during free time activities, are presented in Table 15.

Tables 7 and 8 show that relative to committed time, men, on average, spent nearly 3.5 times the number of minutes in contracted time, and nearly 2.5 times the number of minutes in free time. Married and unmarried men spent similar periods of time in contracted time. Relative to unmarried men, married men spent fewer minutes in free time, but more minutes in committed time. Time spent in contracted time and free time decreased with age, whereas time spent in committed time increased with age.

Table 7
Means and Standard Deviations for Weekly Minutes Spent in Contracted Time, Committed Time, and Free Time Activities for the Sample and by Marital Status

	Total sample (n=186)		Married (n=84)		Unmarried (n=102)	
Typology of time	Mean	S.D.	Mean	S.D.	Mean	S.D.
Contracted time	2362.99	884.67	2358.13	862.85	2366.99	906.46
Committed time	678.37	418.05	739.70	441.73	627.87	392.51
Free time	1616.30	640.01	1515.01	670.57	1699.71	604.31

Table 8
Means and Standard Deviations for Weekly Minutes Spent in Contracted Time, Committed Time, and Free Time Activities for Each Age Category

Typology of time	Contracted time		Committed time		Free time	
Age category	Mean	S.D.	Mean	S.D.	Mean	S.D.
18 to 25 (n = 30)	2593.74	1001.04	476.27	219.63	1811.05	490.11
26 to 35 (n = 56)	2468.31	827.28	537.95	265.39	1684.64	638.09
36 to 45 (n = 46)	2380.21	957.38	777.76	510.76	1540.19	719.79
46 to 55 (n = 42)	2190.63	799.74	770.90	305.01	1433.38	605.74
56 and over (n = 12)	1831.89	584.02	1134.14	730.46	1742.39	660.41

Tables 9 and 10 show that men, on average, spent over twice as much time in social activities than in active leisure, and they also spent over twice the number of minutes in passive leisure than in social activities. In comparison to unmarried men, married men spent fewer minutes per week in social activities and active leisure, and slightly more time in passive leisure. Time spent in each leisure activity type generally declined with age except at age 56 and over when time spent in passive leisure increased. A sharp decline in time spent in social activities and an increase in time spent in active leisure was observed among men aged 36 to 45 years. Time spent in passive leisure decreased and time spent in social activities appeared to increase among men aged between 46 to 55 years.

Table 9
Means and Standard Deviations for Weekly Minutes Spent in Each Free Time Activity Coding Category for the Sample and by Marital Status

	Total sample (n=186)		Married (n=84)		Unmarried (n=102)	
Free time activity coding category	Mean	S.D.	Mean	S.D.	Mean	S.D.
Social activities	441.22	307.43	339.03	167.29	525.37	366.44
Active leisure	207.91	178.95	197.68	179.04	225.92	196.41
Passive leisure	958.03	550.27	969.84	570.09	948.42	536.26

Table 10
Means and Standard Deviations for Weekly Minutes Spent in Each Free Time Activity Coding Category by Age Category

Free time activity coding category	Social activities		Active leisure		Passive leisure	
Age category	Mean	S.D.	Mean	S.D.	Mean	S.D.
18 to 25 years (n = 30)	442.28	267.52	251.90	227.25	1116.86	465.63
26 to 35 years (n = 56)	508.70	400.74	191.05	138.15	984.90	574.12
36 to 45 years (n = 46)	374.17	214.63	245.67	240.44	920.36	626.65
46 to 55 years (n = 42)	458.64	294.69	178.46	113.41	796.28	515.82
56 years and over (n = 12)	280.86	98.30	128.90	24.95	1332.63	609.63

Table 11 shows that married men rated all activities as slightly higher than ‘fairly meaningful’. Unmarried men rated contracted time and committed time as ‘fairly meaningful’, but rated free time below ‘fairly meaningful’. Table 12 shows that contracted time and committed time were rated higher than ‘fairly meaningful’ across all age groups except for men aged 36 to 45 years and 56 years and over for contracted time and committed time respectively. Ratings of boredom during contracted time were closest to ‘a little bit bored’, and ratings of boredom during committed time and free time were closest to ‘not at all bored’. Loneliness scores across the three typologies of time were slightly above ‘not at all lonely’.

Table 11
Means and Standard Deviations for Ratings of Meaningful Activity, Boredom, and Loneliness for Each Typology of Time for the Sample and by Marital Status

	Total sample (n=186)		Married (n=84)		Unmarried (n=102)	
Variable by typology of time	Mean	S.D.	Mean	S.D.	Mean	S.D.
Contracted time						
- Meaningful activity	3.04	0.23	3.09	0.15	3.00	0.27
- Boredom	1.69	0.20	1.67	0.16	1.71	0.22
- Loneliness	1.31	0.17	1.30	0.12	1.31	0.21
Committed time						
- Meaningful activity	3.04	0.19	3.08	0.18	3.00	0.20
- Boredom	1.42	0.13	1.41	0.14	1.44	0.12
- Loneliness	1.24	0.10	1.21	0.07	1.26	0.11
Free time						
- Meaningful activity	2.92	0.35	3.01	0.28	2.85	0.38
- Boredom	1.35	0.19	1.30	0.14	1.39	0.21
- Loneliness	1.24	0.22	1.18	0.12	1.28	0.27

Table 12
Means and Standard Deviations for Meaningful Activity, Boredom, and Loneliness for Each Typology of Time by Age Category

	18 to 25 (n=30)		26 to 35 (n=56)		36 to 45 (n=46)		46 to 55 (n=42)		56 and over (n=12)	
Variable by typology of time	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Contracted time										
- Meaning	3.04	0.32	3.07	0.19	2.97	0.23	3.09	0.20	3.02	0.09
- Boredom	1.75	0.29	1.72	0.14	1.69	0.22	1.62	0.13	1.66	0.12
- Loneliness	1.34	0.19	1.27	0.12	1.34	0.25	1.30	0.12	1.27	0.04
Committed time										
- Meaning	3.05	0.13	3.05	0.14	3.03	0.20	3.07	0.17	2.82	0.39
- Boredom	1.43	0.06	1.42	0.10	1.38	0.10	1.45	0.18	1.50	0.19
- Loneliness	1.23	0.04	1.25	0.10	1.24	0.10	1.22	0.11	1.22	0.06
Free time										
- Meaning	2.95	0.39	2.84	0.34	2.99	0.34	2.97	0.30	2.79	0.38
- Boredom	1.45	0.25	1.41	0.18	1.29	0.16	1.29	0.13	1.29	0.14
- Loneliness	1.27	0.22	1.26	0.25	1.21	0.17	1.22	0.24	1.19	0.12

Tables 13 and 14 show that passive leisure was rated between ‘a little bit meaningful’ to ‘fairly meaningful’, except for men aged 56 years and over who rated passive leisure as ‘fairly meaningful’. Active leisure and social activities were rated slightly higher than ‘fairly meaningful’ for all men except for those aged 26 to 35 years who rated social activities as slightly lower than ‘fairly meaningful’. All free time activities were rated above ‘not at all boring’, except for unmarried and younger men aged between 18 to 35 years whose ratings of boredom during passive leisure neared closer to ‘a little bit bored’. On average, men’s ratings of loneliness during all free time activities were closest to ‘not at all lonely’.

Table 15 shows that men were more likely to engage in social activities and active leisure than passive leisure because they wanted to “more than anything else”. Nearly one-quarter of passive leisure activities were engaged in because men “had nothing else to do”. Active leisure was least likely to be engaged in because men “had nothing else to do”, but was more likely to be engaged in because men felt they “had to”.

Table 13
Means and Standard Deviations for Ratings of Meaningful Activity, Boredom, and Loneliness for Each Free Time Activity Coding Category for the Sample and by Marital Status

	Total sample (n=186)		Married (n=84)		Unmarried (n=102)	
Variable by free time activity coding category	Mean	S.D.	Mean	S.D.	Mean	S.D.
Social activities						
Meaning	3.06	0.39	3.07	0.33	3.05	0.44
Boredom	1.29	0.20	1.27	0.14	1.31	0.25
Loneliness	1.12	0.15	1.11	0.09	1.13	0.20
Interest	0.65	0.20	0.64	0.13	0.60	0.24
Active leisure						
Meaning	3.06	0.32	3.07	0.32	3.04	0.32
Boredom	1.35	0.23	1.31	0.16	1.38	0.27
Loneliness	1.36	0.29	1.33	0.20	1.40	0.35
Interest	0.65	0.18	0.66	0.17	0.63	0.18
Passive leisure						
Meaning	2.69	0.70	2.75	0.64	2.63	0.75
Boredom	1.42	0.40	1.35	0.32	1.50	0.46
Loneliness	1.21	0.39	1.13	0.20	1.30	0.49
Interest	0.57	0.31	0.64	0.31	0.51	0.30

Table 14
Means and Standard Deviations for Ratings of Meaningful Activity, Boredom, and Loneliness for Each Free Time Activity Coding Category by Age Category

Age category	18 to 25 (n=30)		26 to 35 (n=56)		36 to 45 (n=46)		46 to 55 (n=42)		56 and over (n=12)	
Variable by free time activity coding category	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Social activities										
Meaning	3.09	0.40	2.94	0.52	3.13	0.27	3.04	0.30	3.00	0.39
Boredom	1.30	0.24	1.37	0.25	1.26	0.16	1.23	0.09	1.26	0.14
Loneliness	1.15	0.21	1.14	0.17	1.11	0.08	1.14	0.19	1.09	0.04
Interest	0.61	0.23	0.61	0.22	0.67	0.15	0.59	0.19	0.60	0.22
Active leisure										
Meaning	3.08	0.32	3.05	0.27	3.06	0.34	3.06	0.26	3.09	0.41
Boredom	1.42	0.33	1.36	0.18	1.29	0.13	1.37	0.23	1.25	0.11
Loneliness	1.40	0.31	1.40	0.34	1.33	0.16	1.39	0.37	1.33	0.18
Interest	0.65	0.18	0.64	0.14	0.67	0.17	0.61	0.22	0.67	0.18
Passive leisure										
Meaning	2.70	0.70	2.54	0.66	2.78	0.77	2.82	0.65	3.00	0.39
Boredom	1.62	0.42	1.50	0.37	1.32	0.41	1.27	0.26	1.26	0.14
Loneliness	1.26	0.33	1.24	0.41	1.19	0.44	1.14	0.24	1.09	0.04
Interest	0.49	0.29	0.49	0.30	0.69	0.27	0.65	0.32	0.50	0.31

Table 15
Percentage of Responses to “Why Were You Doing This Activity?” for Each Free Time Activity Coding Category

Free time activity	I wanted to more than anything else	I wanted to but wished I was doing something else	I had to	I had nothing else to do
Social activities	65.3	10.0	15.5	9.2
Active leisure	65.2	13.5	19.9	1.4
Passive leisure	56.8	15.0	4.6	23.6

The data were previously screened for missing values, outliers, and the assumptions of linearity and normality (Chapter 7). The doubly multivariate analysis of variance also has the assumptions of multivariate normality, homogeneity of the variance-covariance matrices, and multicollinearity (Tabachnick & Fidell, 2001).

Although sample sizes were not equal, multivariate normality was assured as there were more than 20 cases in the smallest cell ($n=22$), and there were more cases in each group than dependent variables (Tabachnick & Fidell, 2001). Box's test of the equality of covariance matrices indicated heterogeneity across groups. Howell (2002) argued that the analysis of variance procedure is robust to modest violations of the assumption of homogeneity of the variance-covariance matrices, and assumptions may frequently be violated with inconsequential statistical effects. One indication of the robustness of the MANOVA procedure is the small size of the ratio of the largest to smallest variance across groups. Maximum variance ratios have been suggested ranging from 4:1 (Howell, 2002) to 10:1 (Tabachnick & Fidell, 2001). An examination of the sample sizes and variances across the four groups showed that the majority of the variance ratios were 5:1 or less, and the largest variance was 6.8:1. The variance ratios were well within the limit of 10:1 suggested by Tabachnick and Fidell (2001). On a number of dependent variables, the largest variance and covariance occurred in the smaller group (unmarried, aged 39 and over). Consequently, the power of the MANOVA was reduced. Based on the recommendation of Hair, Anderson, Tatham, and Black (1995), the significance level of the F -test was increased from .05 to .08 to adjust for heterogeneity of the variance-covariance matrices.

To assess the assumption of absence of multicollinearity and singularity, an examination was conducted on the bivariate associations between the variables and on the determinant of the variance-covariance matrix produced in the main analysis (Tabachnick & Fidell, 2001). The highest correlation coefficient was .67, which was below the maximum of .90 for statistical multicollinearity to occur (Tabachnick & Fidell, 2001). The determinant of the variance-covariance matrix indicated no statistical multicollinearity ($p=.001$).

Roy-Bargman step-down analysis has the assumption of homogeneity of regression. This assumption was tested using the SPSS MANOVA procedure with the independent variable and covariate interactions entered in the last step of the test, as suggested by Tabachnick and Fidell (2001). The results of that test showed that the assumption of homogeneity of regression was met (approximate $F(3,172) = .05, p=.99$).

8.4.3 Tests of hypotheses

Using Pillai’s criterion for unequal sized groups (Francis, 2001; Tabachnick & Fidell, 2001), the results (Table 16) showed that the main effect for time was statistically significant ($F(6,175) = 96.55, p=.0001$). The large effect size ($\eta^2 = .77$) indicated that time predicted a large proportion of the difference in one or more of the dependent variables. The main effect for marital status was weaker, but statistically significant ($F(3,178) = 6.34, p=.0001, \eta^2 = .10$), as was the main effect for age ($F(3,178) = 4.24, p=.006, \eta^2 = .07$). The marital status by time interaction was small and statistically significant ($F(6,175) = 1.95, p=.076, \eta^2 = .06$), as was the age by time interaction effect ($F(6,175) = 4.63, p=.0001, \eta^2 = .14$). The interaction effects that were not statistically significant included marital status by age ($F(3,178) = 1.96, p=.12$), and time by marital status by age ($F(6,175) = 0.57, p=.76$).

Table 16
Doubly Multivariate Analysis of Variance of Typology of Time, Marital Status, Age, and Their Interactions on Meaningful Activity, Loneliness, and Boredom

Source of variance	Pillai's Criterion	df	Multivariate F	p
Marital status	.10	3/178	6.34	.0001
Age	.07	3/178	4.24	.006
Marital status X Age	.03	3/178	1.96	.12
Time	.77	6/175	96.55	.0001
Time X Marital status	.06	6/175	1.95	.076
Time X Age	.14	6/175	4.63	.0001
Time by Marital status X Age	.02	6/175	.57	.76

After step-down analysis (see Table 17) for the main effect for time, meaningful activity made a unique contribution to predicting differences during contracted time, committed time, or free time (step-down $F(2,360) = 9.25, p=.0001$).

With meaningful activity controlled, a significant difference was found for ratings of loneliness (step-down $F(2,359) = 14.53, p=.0001$). After controlling for meaningful activity and loneliness, ratings of boredom differed during contracted time, committed time, or free time (step-down $F(2,358) = 247.77, p=.0001$).

Step-down analysis for the main effect for marital status showed that married and unmarried men significantly differed only in their ratings of meaningful activity during one or more of the three typology of time conditions (step-down $F(1,180) = 15.74, p=.0001$).

Table 17
Univariate and Step-down Analyses of Typology of Time, Marital Status, Age, and Their Interactions on Meaningful Activity, Loneliness, and Boredom

Independent	Dependent	Univariate <i>F</i>	df	<i>p</i>	Step-down <i>F</i>	df	<i>p</i>	α
Time	Meaning	9.25	2/360	.0001	9.25	2/360	.0001	.017
	Loneliness	12.16	2/360	.0001	14.53	2/359	.0001	.017
	Boredom	238.57	2/360	.0001	247.77	2/358	.0001	.017
Marital status	Meaning	15.74	1/180	.0001	15.74	1/180	.0001	.017
	Loneliness	4.65	1/180	.03	2.48	1/179	.12	.017
	Boredom	1.48	1/180	.23	.69	1/178	.41	.017
Age	Meaning	.42	1/180	.52	.42	1/180	.52	.017
	Loneliness	.34	1/180	.56	.45	1/179	.50	.017
	Boredom	9.08	1/180	.003	11.80	1/178	.0001	.017
Marital status X Age	Meaning	3.87	1/180	.051	3.87	1/180	.051	.017
	Loneliness	1.04	1/180	.31	1.63	1/179	.20	.017
	Boredom	.24	1/180	.63	.38	1/178	.54	.017
Time X Marital status	Meaning	.21	2/360	.81	.21	2/360	.81	.017
	Loneliness	5.80	2/360	.003	5.91	2/359	.003	.017
	Boredom	.78	2/360	.46	.54	2/358	.58	.017
Time X Age	Meaning	2.19	2/360	.11	2.19	2/360	.11	.017
	Loneliness	.63	2/360	.53	.71	2/359	.49	.017
	Boredom	11.38	2/360	.0001	11.05	2/358	.0001	.017
Time X Marital status X Age	Meaning	.21	2/360	.81	.21	2/360	.81	.017
	Loneliness	1.27	2/360	.28	1.30	2/359	.27	.017
	Boredom	.25	2/360	.78	.07	2/358	.94	.017

The step-down analysis for the main effect for age showed that only ratings of boredom differed significantly by age during one or more of the three time conditions (step-down $F(1,178) = 11.80, p=.0001$). Boredom was also the only dependent variable that uniquely predicted an interaction effect for age by time (step-down $F(2,358) = 11.05, p=.0001$). After step-down analysis for the interaction effect for marital status by time, loneliness was the only variable to significantly differ by time according to marital status (step-down $F(2,359) = 5.91, p=.003$).

To explore the main effect for time for ratings of meaningful activity, post-hoc pairwise comparisons using the one-way repeated measures analysis of variance (ANOVA) procedure were performed, as recommended by Howell (2002). For each comparison, alpha was apportioned at .003. The results showed a significant difference in ratings of meaningful activity during contracted time and free time ($F(1,183) = 16.82, p=.0001$) and during committed time and free time ($F(1,183) = 18.90, p=.0001$), but not during contracted time and committed time. The adjusted marginal means in Table 18 show that men rated contracted time and committed time as more meaningful than free time.

Table 18
Adjusted Marginal Means and Standard Errors for the Effects of Typology of Time, Marital Status, Age and Their Interactions on Meaningful Activity, Loneliness With Meaningful Activity as a Covariate, and Boredom With Meaningful Activity and Loneliness as Covariates

	Total sample		Age				Marital status			
	(n=184)		18 to 38 years (n=98)		39+ years (n=86)		Married (n=83)		Unmarried (n=101)	
Dependent variable	Adjusted Mean	S.E.	Adjusted Mean	S.E.	Adjusted Mean	S.E.	Adjusted Mean	S.E.	Adjusted Mean	S.E.
Contracted time										
- Meaning	3.03	.02	3.06	.03	3.00	.03	3.09	.03	2.97	.03
- Loneliness	1.30	.01	1.31	.02	1.28	.02	1.30	.02	1.29	.02
- Boredom	0.22	.004	0.23	.01	0.21	.01	0.22	.01	0.22	.01
Committed time										
- Meaning	3.02	.02	3.04	.02	3.00	.02	3.07	.02	2.98	.02
- Loneliness	1.23	.01	1.23	.01	1.24	.01	1.21	.01	1.26	.01
- Boredom	0.15	.003	0.15	.004	0.16	.004	0.15	.01	0.16	.004
Free time										
- Meaning	2.92	.03	2.90	.04	2.95	.04	2.98	.04	2.86	.04
- Loneliness	1.23	.02	1.24	.03	1.22	.03	1.18	.03	1.28	.02
- Boredom	0.13	.01	0.14	.01	0.11	.01	0.12	.01	0.13	.01

In the presence of interaction effects, the main effects for time for ratings of loneliness and boredom were not interpreted (Howell, 2002). The interaction effects for marital status by time for ratings of loneliness and for age by time for ratings of boredom were investigated with multiple pairwise comparisons using the Tukey-Kramer procedure to adjust for unequal sample sizes (Howell, 2002). A critical difference for each subset of means was calculated using the values from the Studentized range statistic tables (q) with the appropriate formula for heterogeneity of variances (Howell, 2002). To control the experimentwise error rate at .08, the familywise error rate of .01 was apportioned for each set of comparisons.

The results showed that loneliness scores significantly differed during contracted time and committed time, and during contracted time and free time for married men only ($q(6,360) = .06, p=.005$). Table 18 shows that ratings of loneliness for unmarried men were the same during the three typologies of time, but for married men, loneliness scores during free time and committed time were lower than loneliness scores during contracted time. The reduction in loneliness scores for married men was greater during free time than it was during committed time. The results also showed that ratings of boredom during committed time and during free time were significantly lower than ratings of boredom during contracted time for all men. There were no significant differences in ratings of boredom during committed time and free time except for men aged 39 years and over who rated free time activities as significantly less boring than committed time ($q(6,358) = .02, p=.005$).

The pooled within cell correlations among dependent variables are summarised in Table 19 and the adjusted sum of squares and η^2 values for each significant step-down effect are presented in Table 20. Table 20 shows that the main effect for time was strongest for ratings of boredom, followed by meaningful activity, and then loneliness.

Table 19
Pooled Within-Cell Correlations among Dependent Variables during Typologies of Time

	Meaning	Boredom	Loneliness
Meaning	.29		
Boredom	-.31	.06	
Loneliness	-.13	.48	.23

Table 20
Summary of Adjusted Sums of Squares and η^2 for the Effects of Typology of Time, Marital Status, Age, and Their Interactions on Meaningful Activity, Loneliness With Meaningful Activity as a Covariate, and Boredom With Meaningful Activity and Loneliness as Covariates

Dependent variable	Meaning		Loneliness		Boredom	
Source of variance	SS'	η^2	SS'	η^2	SS	η^2
Marital status	1.32	.08	.24	-	.01	-
Age	.04	-	.02	-	.03	.05
Marital status X Age	.33	-	.05	-	.00	-
Error	15.14		9.27		.62	
Time	1.07	.05	.41	.06	.73	.57
Marital status X Time	.02	-	.19	.03	.00	-
Age X Time	.25	-	.02	-	.03	.06
Marital status X Age X Time						
Age X Time	.02	-	.04	-	.00	-
Error	20.85		6.09		.55	
Total	39.04	.13	16.33	.09	1.97	.68

8.4.4 Summary of main findings

1. Men spent the most time on contracted time activities. They spent more time on free time activities than they spent in committed time activities. During free time, men spent the most time on passive leisure activities.
2. Men rated unstructured free time as significantly less meaningful than structured time.
3. Married men rated both structured and unstructured time as significantly more meaningful than unmarried men.
4. Married men were significantly less lonely during unstructured time and during committed time than during contracted time. Married men were significantly less lonely during free time than during committed time.

5. There was no significant difference in ratings of loneliness during contracted, committed, and free time for unmarried men.
6. Ratings of boredom were significantly lower during committed time and free time than during contracted time for all men. Older men (aged 36 years and over) were significantly less bored during free time than during committed time.

8.5. Discussion

8.5.1 Time use

When personal care activities such as sleeping, eating, and personal hygiene were omitted from the analysis, the data showed that from an available 168 hours per week, men were left with approximately 78 hours per week to divide between work, study, home, and leisure activities. Just over half of that time (39.38 hours) was devoted to contracted time. The remainder of that time (38.25 hours) was spent in domestic work and leisure activities. The least time was spent in committed time, and nearly 27 hours per week were spent in free time. These data supported previous time-use studies that showed that when not engaged in paid work, men spend more time on free time activities rather than on domestic or childcare activities (ABS, 1992a; 1997c; Bittman, 1991; Frederick, 1995; Robinson & Godbey, 1999).

Marriage increased men's commitments to housework and childcare, but only by less than two hours per week. These results support previous findings that when men married, they only modestly increased time spent in unpaid work (ABS, 1997c; Berk, 1985; Bittman, 1991; 1998; Frederick, 1995; Robinson & Godbey, 1999). Increased age was also associated with increased committed time. These results are consistent with the notion of a temporal ordering of life-goals and associated commitments. Thus, as men age and move through different life stages (i.e. marriage, children, the purchase of a home, car, or boat), the time demands associated with domestic labour may increase through the maintenance of possessions and the care of children. Alternatively, it may be that older men prefer to spend more time on committed time activities (such as car maintenance, gardening, or cooking and caring for children) than younger men.

Despite increased time commitments associated with marriage and aging, men spent an average of only 11.3 hours per week on committed time activities. Although the current study did not compare time use between men and women, it has previously been shown that women's mean share of unpaid work hours is 76% of their total work hours (Bittman & Wajcman, 1999). This equates to 38.9 hours per week. These comparisons provide a reminder of men's reticence to equally share the burden of unpaid labour.

Marital status and age inhibited men's free time, particularly during the parenting years (26 to 55 years). The increased time demands associated with bringing up children and maintaining a family home probably accounted for this effect. In general, being married, having small children in the home, and the increased domestic demands associated with family commitments may have been sufficient to reduce men's free time. During men's younger years and during later life, an age advantage in free time emerged. Where time demands associated with increased social roles were absent or lifted, men appeared to convert the majority of that time into leisure time. Thus, although married and older men participated more in domestic work and childcare activities at the expense of leisure time, that change in time-use patterns was eventually remedied, suggesting that leisure time may be a substitute for housework. Taken together, these findings demonstrate that when not engaged in paid work, men's use of time reflects leisure priorities (Bittman, 1991; 1998; Coverman & Sheley, 1986).

A number of hypotheses have been generated about time use, particularly with respect to the division of household labour. The four most common theories for why and how household labour is divided are: (1) People with the most free time available spend the most time engaged in household labour; (2) The person with the least power in the marital relationship performs the most housework; (3) People who maintain strong sex-role attitudes about gender and family roles are more likely to experience a traditional gender-segregated division of labour in the household; and (4) Housework is a resource through which men and women display behaviour to produce gender (Berk, 1985; Coltrane & Ishii-Kuntz, 1992; Shelton & John, 1996). Although hypotheses about men's uses of committed versus free time were not directly tested in the current study, the patterns observed are suggestive of a gender perspective. Free time may be a resource that men use to 'produce gender' through the avoidance of housework (Berk, 1985; West & Zimmerman, 1987).

8.5.2 Meaningful activity

The hypothesis that unstructured free time activities would be rated as significantly less meaningful than structured activities was supported by the results of the current study. These findings add to the literature by showing that in addition to many retired and unemployed people, men of varying ages, employment and marital statuses may be unable to fulfil a meaningful leisure lifestyle (Ball & Orford, 2002; Bond & Feather, 1988; Evans & Haworth, 1991; Grossin, 1986; Haworth, 1986; Haworth & Evans, 1987; Kaufman, 1993; Winefield et al., 1992).

Men rated activities that included socialising with other people in one's own home or visiting at someone else's home, and attending entertainment, cultural, and sporting events as the most meaningful leisure activities. Active leisure pursuits, such as sport, exercise, outdoor activities, games, hobbies, arts, crafts, and holiday travel were rated as more meaningful than passive leisure activities. The least meaningful leisure activities included doing nothing, reading, watching television, playing computer games, relaxing, thinking, resting, and driving for pleasure. Despite the meaningfulness of social activities and active leisure, the majority of free time was devoted to the less meaningful passive leisure activities. On average, passive leisure accounted for nearly 60% of men's free time. The current results support the conclusion that men have trouble using or prefer not to use leisure time in a structured and goal directed manner (Kubey & Csikszentmihalyi, 1990; Mulgan & Wilkinson, 1995). In summary, Australian men may be characterised by what Havinghurst (1979) described as unsuccessful users of leisure, filling free time with unstructured and meaningless activities.

Men appeared to believe that the most valued outcomes in life were obtained from work, study, and family activities. The results of the current study provide quantitative support to qualitative data that showed that employment, marriage, and the family were the primary sources of meaning in people's lives (Baum & Stewart, 1990; Debats, 1999; DeVogler & Ebersole, 1980; 1981; 1983; DeVogler-Ebersole & Ebersole, 1985; Ebersole & DePaola, 1987; Ebersole & DeVogler, 1981). Thus, a single-item measure using time-use diary methodology was a highly valid indicator of meaningful activity. Higher ratings of meaningful activity during contracted and committed time attest to the strength of social institutions in sustaining structured and meaningful activity (Bond & Feather, 1988; Feather

& Bond, 1983; Jackson, 1999). Social institutions such as employment, marriage, and family require long-term commitments, and may provide structure, direction, purpose, values, goals, and hope for the future (Baumeister, 1991; Sztompka, 1993; Zerubavel, 1981). Given that hegemonic masculinity exists at a social structural level, the meanings associated with those institutions may reflect what it means to be a man in patriarchal societies (Connell, 1995). Where those institutions are absent, it may be more difficult to sustain meaningful activity.

The finding that men rated committed time and contracted time activities as equally meaningful is important for three reasons. First, it disconfirms Jahoda's theory (1981; 1982; 1984). She argued that no activities could sustain meaningful activity to the same degree as work activities because paid work provided the manifest function of earning an income. The results of the current study suggest that it is primarily the latent consequences of time structure that contribute to the meaningfulness of activities, rather than the function of earning an income.

Second, there has been considerable disagreement about whether men's childcare and domestic activities should be categorised as work or leisure (Barnett & Baruch, 1988; Berk, 1985; Berk & Berk, 1979; Bittman, 1991; Burns & Homel, 1989; Cohen, 1993; Coleman, 1988; Dempsey, 1988; Luxton, 1983; McMahon, 1994; Meissner et al., 1975; Oakley, 1974; Wearing & Wearing, 1988). With respect to the meaningfulness of the activities, the results of the current study showed that committed time activities were clearly distinguished from free time activities.

Third, the results are relevant to the debate surrounding men's caring roles. They are inconsistent with the notion that men perceive family and domestic roles as less important than work roles (Townsend, 1994; Willinger, 1993), but complement Robinson's (1977) findings that men derive satisfaction from activities with children and other family members. Therefore, any psychological benefits that men may receive from their marital and parental roles may be realised during the enactment of those roles. Men may be shifting away from viewing the caring role in terms of the primary provider role (Dempsey, 1988; Fitzgerald, 1994; Simon, 1995).

Married men rated unstructured time as more meaningful than unmarried men, as hypothesised. Contrary to predictions, the meaningfulness of contracted time and committed time activities for married men also increased, which may have reflected a greater emphasis on income, status, and occupational prestige (Nock, 1998). However, it may be more accurate to suggest that there are latent effects of the institution of marriage for the meaningfulness of men's activities in general. In fact, the importance of marriage for the maintenance of meaningful activity may be greater than the functions of time structure in sustaining meaningful activity. Marriage may provide men with a higher-order purpose goal during committed and contracted time as well as during free time (Sansone & Smith, 2000). Specifically, women may structure men's daily lives, not just their free time (Delphy & Leonard, 1992; di Leonardo, 1987).

Marriage may increase the meaningfulness of all activities in a number of ways. Having a wife may provide men with a longer-term purpose for work. Hence, men's reasons for being successful at a career may be validated. Marriage for men may also be associated with an expectation that wives will be present and available in the home to care *for* and *about* them (Delphy & Leonard, 1992; Graham, 1993). Notions of caring for and caring about "...[are] not just a question of thinking about someone, but doing actual activities; talking to them about things that interest them, fetching them things that give them pleasure, smiling at them, cuddling them, and stroking their bodies and egos" (Delphy & Leonard, 1992, p. 21). Hence, men may perceive the marital home as a structured and meaningful environment (Delphy & Leonard, 1992; di Leonardo, 1987; Knupfer et al., 1966; Troll & Turner, 1979). Wives may even facilitate membership in the wider community (Dykstra, 1995). This 'relationship work' performed by women may transform men's psychological processes (Delphy & Leonard, 1992; Ferguson, 1984) whereby men perceive their lives in general as more meaningful and full. The meaningfulness of marriage may explain why men report more positive affect during activities conducted in the presence of a spouse or other family members than when alone (Baruch & Barnett, 1986; Csikszentmihalyi & Kubey, 1981; Larson et al., 1997; Sullivan, 1996).

Contrary to expectations, age was not significantly associated with meaningful activity. While it was hypothesised that a lack of opportunities for younger people to develop life goals would directly reduce the meaningfulness of activities relative to older men, the results

of the current study offer some insight into how younger men's use of time may affect their ability to sustain meaningful activity. Younger age was associated with spending less time in committed time and more time in free time. Therefore, despite no difference between younger and older men on meaningful activity ratings, younger men may have been psychologically disadvantaged by spending more time on unstructured meaningless activities relative to the time spent in structured meaningful activities. It is also possible that any age effects were accounted for by marital status differences during step-down analysis. Specifically, unmarried men may lack meaningful activity relative to married men because unmarried men tend to be of a younger age.

8.5.3 Boredom

It was hypothesised that ratings of boredom would be lower during unstructured time than structured time, and the differences in ratings of boredom between structured and unstructured time would be greater for married men than for unmarried men, and for older men relative to younger men. The results of the current study showed that men were significantly more bored during contracted time than they were during committed time and free time, and older men were significantly less bored during free time than they were during committed time. Therefore, the hypotheses were partially supported.

The significantly lower ratings of boredom during unstructured time add to a growing body of literature that shows that people experience more positive affect during free time activities than during other daily activities (Kubey & Csikszentmihalyi, 1990; Larson, Gillman et al., 1997; Larson, Richards et al., 1994; Robinson & Godbey, 1999). High ratings of boredom at work may have arisen from its repetitive nature or a monotonous environment, or from appraisals of the tasks themselves (Fisher, 1993; Ross & Altmaier, 1994). For example, men may have disliked their jobs, or lacked enjoyment in the work. These factors may have increased distractibility, resulting in a concentration on the passage of time, or a perception that the environment lacked adequate stimulation (Ahmed, 1990; Drory, 1982; Farmer & Sundberg, 1986; Joubert, 1984; Larson & Richards, 1991; Leong & Schneller, 1993; Mikulas & Vodanovich, 1993; O'Hanlon, 1981; Seib & Vodanovich, 1998; Smith, 1981; Vodanovich & Kass, 1990a; Watt, 1991; Watt & Blanchard, 1994; Zuckerman, 1979).

The present and previous studies have shown that men spend the most time in passive leisure, which is less enjoyable and less satisfying than work, and more boring than other leisure activities (Farnworth, 1998; Gordon & Caltabiano, 1996; Juster, 1985; Robinson & Godbey, 1999). Therefore, it is difficult to conclude that free time was optimally arousing relative to work. It seems more likely that the constraining nature of the worker role accounted for the higher boredom scores during contracted time (Barrett, 1980), and leisure time was used as respite from its constraints. Previous research has shown that men report lower levels of choice at work than at home, suggesting that men may experience little freedom or control over the work environment (Larson et al., 1994). This may stem from men's resistance to free themselves from being 'locked into waged labour', because of its positive meaning (Bernard, 1981; Dempsey, 1988; Fitzgerald, 1994; Simon, 1995; Townsend, 1994; Willinger, 1993). Committed time and free time, unfettered by those constraints, may have offered men the perception that they had freedom of choice with respect to the activities they engaged in during that time, and this was sufficient to reduce boredom (Neulinger, 1981; Roberts, 1981). This conclusion indicates that men's committed time is relatively undemanding and discretionary, and may approximate a state of leisure (Dempsey, 1988; Meissner et al., 1975). Thus, the results of the current study suggest that in combination with their high meaningful activity scores, more time spent in committed time activities may be a more meaningful and structured way for men to spend non-work time.

Older men experienced boredom differently to younger men during the transition from committed time to free time only. This result indicates that boredom does not appear to be a ubiquitous part of younger people's lives in general, but rather, it seems to be attributable to the nature of unstructured time. This may explain why previous research has been unable to confirm the relationship between age and boredom proneness (Harris, 2000; Vodanovich & Kass, 1990b). Global measures of boredom may not be tapping into the specific aspects of time that are differentially experienced by younger and older men. For example, Vodanovich and Kass (1990b) found no age differences using the Boredom Susceptibility subscale of the Sensation Seeking Scale-Form, which does not include any items measuring perceptions of the use of time (Zuckerman, Eysenck, & Eysenck, 1978). However, age differences were found on the Boredom Proneness Scale that includes items such as 'I find it easy to entertain myself'; 'I often find myself with nothing to do – time on my hands'; and 'Much of the time I just sit around doing nothing' (Farmer & Sundberg, 1986).

Vodanovich and Kass (1990b) reported that older men were less bored than younger men because of their greater ability to organise time. In comparing expenditure in committed time and free time among younger and older men in the current study, it is probably more accurate to assume that older men have more of their free time organised *for them* due to increased committed time demands. Actual time demands may influence the experience of time. For example, thinking about work and about caring for and assisting other family members, thinking about family events or the maintenance of material possessions may lead older men to believe their time is fully occupied or organised. Conversely, social goals such as employment, marriage, parenthood, and the possession of material goods may be more difficult for younger men to attain. Too few social role commitments to focus attention on, an excess of unstructured free time, and more time spent in passive leisure may lead men to believe that they have less time commitments. These factors may combine synergistically to distort perceptions of boredom for younger men.

Researchers in the disciplines of criminology and delinquency have begun to focus on adolescents' free time from a social control theory perspective (Hirschi, 1969). Studies have shown that involvement in structured activities is adaptive because it attaches people to social institutions and reduces available time for socially undesirable acts (Foshee & Bauman, 1992; Purdy & Richard, 1982; Robertson, 1999). However, traditional social control theory does not consider the relationship between leisure and delinquent behaviour and how leisure time activities are experienced (Robertson, 1999). Contemporary social control theories suggest that boredom among adolescents may ensue when free time activities *are* structured by adults and social institutions (Larson & Richards, 1991; Shaw et al., 1995). Thus, on one hand, social control theory suggests that less unstructured time may reduce the likelihood of delinquent acts. On the other hand, excess structured activities during free time may increase boredom. The results of the current study suggest that engaging in more committed time activities may help to balance the apparent contradiction between qualitative 'underload' and 'overload' that adolescents may experience during free time. That is, increased committed time may reduce unstructured time and increase attachment to social structures while engaging in activities that are phenomenologically similar to discretionary free time activities. The results of the current study also suggest that this strategy may also be effective for preventing or reducing boredom among younger male adults.

Boredom has also been associated with depressed affect and major depressive disorder (Ahmed, 1990; Blaszczynski et al., 1990; Farmer & Sundberg, 1986; Sommers & Vodanovich, 2000; Todman, 2003; Vodanovich et al., 1991). Strategies that encourage younger men to take advantage of excess time by engaging in voluntary work or caring for other people, and for older men to share housework and parental duties equally with partners, and identifying the personal benefits of doing so, may lead to men perceiving life as more meaningful and fulfilling. These beliefs may elevate men's moods and may reduce any feelings of worthlessness that they may have.

Including time as a within-subjects variable in a doubly multivariate MANOVA showed that the type of time was the strongest explanatory variable of men's ratings of boredom. Once the effect of time was accounted for, relatively little was explained either by age and marital status alone or by the two-way interactions, and nothing was explained by the three-way interaction. Furthermore, the effect of time on ratings of boredom remained significant and strong even after the effects of meaningful activity had been accounted for. These findings highlight two main points deserving of future research attention. First, the degree to which meaningful activity and boredom are related is dependent upon the nature of time. Contrary to the theorising of Barbalet (1999), factors other than the meaningfulness of activities may be necessary and more important to boredom relief during non-discretionary time such as work or study. Second, although the experience of boredom across time was not measured in the current study, perceptions of 'having nothing to do' or 'don't know what to do' may sometimes, but not always, correspond to the experience of boredom during work and study (Fisher, 1993). Therefore, not only may boredom vary quantitatively according to time, but men's personal experience of it may also depend on the type of time. Scholars have consistently highlighted the multidimensional nature of boredom, and have been unable to explain the relationships between its affective, behavioural, situational, individual and cognitive aspects. The results of the present study indicate that situational factors may be the strongest antecedent of boredom, and situational factors may actually determine the cognitive and affective components of boredom. These findings add to a growing body of literature that shows the importance of the experience of time to mental health and attests to the value of using time-use research methodology in the discipline of psychology (Bittman & Wajcman, 1999; Bloomfield & Gunthorpe, 2004; Mattingly & Bianchi, 2003; Sullivan, 1996).

8.5.4 Loneliness

It was hypothesised that loneliness scores would be lower during unstructured than structured time, and the effects would be greater for older men and married men. The results of the current study showed that married men were less lonely than unmarried men during committed and free time. Married men were also significantly less lonely during free time than committed time. There was no difference in loneliness scores between married men and unmarried men during contracted time. There was also no difference in loneliness scores between older and younger men during contracted, committed, or free time.

The difference in loneliness scores between married and unmarried men found in the current study supported previous research that found that married men were significantly less lonely than unmarried men (Burns, 1980; Dykstra, 1995; Peters & Liefbroer, 1997; Pinqart, 2003; Stack, 1998; Tornstam, 1992; White & Bloom, 1981; Zhang & Hayward, 2001). The finding is consistent with the notion that marriage serves to protect men against loneliness (de Jong-Gierveld & Tilburg, 1989; Stack, 1998; Tornstam, 1992; Wood, 1978). The results of the current study make a contribution to the literature on loneliness as evidence was found for a time effect in terms of the extent to which marriage protects against loneliness. While marriage lowered loneliness during committed time and free time, the effect was stronger during free time. This finding supports the idea that married men may rely heavily on their wives as leisure time partners to attenuate loneliness during unstructured time (Bikson & Goodchilds, 1978; de Jong-Gierveld, 1986; Dykstra, 1995; Miller & Ingham, 1976; Rokack & Brock, 1997).

Married men's lower loneliness scores during committed time may be related to the social context of those types of activities. Using data from the 1997 Australian time-use survey, Craig (2002) showed that the majority of men's housework and childcare activities were conducted in the presence of wives. In fact, 74% of fathers' childcare was conducted in tandem with spouses. Regardless of age, number of children in the home, or employment status, no father spent in excess of 10% of free time alone with children. Other research showed that when men were at home, they were more likely to spend time in the company of wives than alone with children (Robinson et al., 1972) and Delphy and Leonard (1992) argued that the majority of men's domestic work equates to nothing more than 'helping'

their wives. Thus, the presence of the spouse may have been sufficient to reduce married men's loneliness during committed time.

The finding that married men were as lonely as unmarried men during contracted time was consistent with previous findings of loneliness among married people (Page & Cole, 1991a; Tornstam, 1992). The explanation for married men's higher loneliness scores during contracted time is probably not due to the absence of friends or work colleagues. One positive aspect of employment is that it provides social interaction (Jahoda, 1981; 1982). The results of the current study supported previous findings that for men, most desired levels of social contact are satisfied by a spouse, and contact with friends and colleagues at work may not reduce or prevent loneliness in the absence of a spouse during contracted time (de Jong-Gierveld, 1986; Marks et al., 2001; Pinquart, 2003; Rokach & Brock, 1997; Rubin, 1984; Tornstam, 1992). These data suggest that men's loneliness at work may be understood as the absence of a partner. They support previous findings that it is not the size or composition of a social network, but the meaningfulness or density of a social network, that is the strongest predictor of loneliness (Rokach, 1997; Stack, 1998; Stokes, 1985).

It has previously been suggested that many men may feel sadness from being severed from their families (Cockburn, 1991). The results of the current study provide empirical evidence for this assertion, and show that this sadness may be a daily experience for many men. These results suggest that men may be dependent upon women to assuage loneliness (Jordan, 1985). Thus, in addition to physical and material needs, men may also have their psychological needs met by women. By maintaining the home as a haven for men, and by being present in the home, wives may contribute to married men's psychological well-being through the reduction of loneliness. For that reason, men may place limited importance on developing and maintaining close friendship networks outside of the marital relationship. This may explain why men are less likely than women to have close friends other than a spouse or to have no close friends at all (Antonucci & Akiyama, 1987; Corney, 1990; Dykstra, 1995; Levinson, 1978; McGill, 1985; O'Neil et al., 1985; Rubin, 1984; Tornstam, 1992; Umberson et al., 1992; Williams, 1985).

Schwartz and Olds (1997) argued that current social structures no longer provide people with an inherent sense of belonging that automatically develops from daily interactions with

members of the family and the community. In the past, it may have been feelings of interdependency that were nurtured during an active community life that alleviated loneliness. Today, people may have limited opportunities to meet the two elements essential to building emotional relationships; regular contact, and a shared activity (Schwartz & Olds, 1997). If those two criteria are necessary for satisfying relationships, then it is not surprising that men are lonely during contracted time. Masculinist workplace ideologies that espouse independence, competitiveness, and self-sufficiency may discourage regular contact and the sharing of activities with other men. These factors may impede many men from developing meaningful relationships at work, and may actually perpetuate men's reliance on spouses to prevent or reduce loneliness.

Social institutions, particularly the workplace, may also contribute to men's loneliness via traditional ideologies about appropriate behaviours for male and female employees. Some workplaces reinforce cultural expectations for longer working hours and reward compliant employees accordingly. These expectations and rewards are more likely to be directed at men than women, reinforcing cultural definitions of gender (Ferree, 1990; Pocock, 2003), and limiting the time men spend with families and community members. Many government policies reconstruct the gendered division of labour and reinforce men's alienation from families. For example, Australia has paid maternity leave for women, but not for men. Caring for children can facilitate community involvement through parent networks and school based activities. Government childcare policies have offered women opportunities to combine work and family, but ignore the potential for men to become more involved in family responsibilities, thus denying their opportunity to share the community networking benefits. Many women also reinforce masculinist norms by a reluctance to accept responsibility for the co-provider role, and an unwillingness to sacrifice aspects of the household division of labour (Ferree, 1990; 1991; Pleck, 1985). Full equality between men and women in opportunities to develop close and satisfying relationships outside of the marital relationship is not likely to be achieved until behavioural change is accompanied with macro-level social change.

The fact that unmarried men were lonelier than married men during committed time and free time indicates that the absence of a spouse may be of a major health concern for this population group. These men spent all of their time deprived of those relationships, and no

activities seemed sufficient to reduce feelings of loneliness. Therefore, no activities, friends or work colleagues, or other people sought by unmarried men to meet social needs were successful in preventing or reducing loneliness. Many unmarried men may also live alone and spend more time by themselves. Although spending time alone is not always predictive of loneliness, it sometimes is (Rubenstein & Shaver, 1982). Spending time alone, particularly during the evenings, is associated with drowsiness, passiveness, tiredness, and boredom (Larson, Zuzanek, & Mannell, 1985). Time alone may be more problematic for men than for women. For example, men are more reluctant than women to spend time alone (Gove & Geerken, 1977; Frederick, 1995). Men who live alone are significantly lonelier than women who live alone (de Jong-Gierveld, 1986), and living alone is strongly associated with demoralisation for men (Page & Cole, 1992). The results of the current study suggest that non-work time, which is most likely to occur during the evening and on weekends, is the most difficult period for unmarried men relative to married men.

Contrary to predictions, age was not significantly associated with ratings of loneliness. These results suggest that in Australia, younger men may not be lonelier than older men, and that seems to be case regardless of the types of activities men engage in. These results supported the findings of de Jong-Gierveld (1987) and Tijhuis et al. (1999), but are inconsistent with those reported by Stack (1998). Since the current study used a sample that is more representative of ages in the general male population, and included both age and marital status in multivariate analysis, the results suggest that any effects of age on loneliness may have been accounted for by marital status, as Tornstam (1992) found.

8.6 Summary and concluding remarks

The results of the current study found that how and what men felt during the day was largely dependent upon the nature of time, and to a lesser extent, marital status and age. Men's non-paid work time reflected leisure priorities, but men's free time did not sustain meaningful activity to the same extent as other types of time. The findings suggest that men may use free time and committed time to reduce the effects of paid work constraints. Paradoxically, men spent the majority of free time on passive leisure that did not sustain meaningful activity or reduce boredom to the same degree as other leisure activities.

It is possible that men's daily experiences are closely tied to the construction and reconstruction of gender. Men's contracted and committed time may be the more meaningful part of the day because their jobs and families are viewed as so important to the reconstruction of hegemonic masculinity. Despite the meaningfulness of paid work, building careers and successfully fulfilling the provider role may place a large number of constraints upon men and they may have less discretion to change careers. The importance men may place on work and marriage, together with other masculinist notions, may sever men from meaningful relationships outside of a marital relationship, and this was associated with loneliness. Contracted time appeared to be problematic for married men's loneliness, and this may be due to being away from home and a reduced meaningful friendship network at work. Loneliness may pervade all daily activities for unmarried men, and this may be because unmarried men's social networks were unable to meet their contact needs in the absence of a spouse. These findings suggest that the gendered division of paid labour may be related to several social disadvantages for men, expressed as boredom and loneliness.

Patriarchal beliefs may have led many men to believe that leisure is a privilege and freedom from domestic work at home enabled them to unwind and relax in a less lonely environment (Deem, 1987; Delphy & Leonard, 1992). Although men may believe they are recuperating from work during leisure time, data from the current and other studies showed that the majority of free time was not enjoyable or meaningful (Juster, 1985; Robinson & Godbey, 1999). Although the provider role was significantly meaningful to men, so was the family role. Reducing free time and increasing committed time activities may be beneficial in reducing men's negative affect during free time.

The results of the current study have highlighted a number of psychological benefits that men may receive from the institution of marriage. Marriage increased committed time, which, in turn, reduced unstructured free time. Marriage was also powerful in the maintenance of meaningful activity and may be superordinate to other social structural sources of meaningful activity. The results also showed a unique pattern of loneliness common to married men and the role that wives may have in attenuating men's loneliness. A corollary of these results is that unmarried men may be disadvantaged psychologically by the absence of a spouse.

CHAPTER 9

PHASE 2: MEDIATOR MODEL OF BOREDOM DURING FREE TIME

9.1 Aim

The aim of phase 2 was to develop and test the utility of a causal model that emphasises the mediator roles of meaningful activity, loneliness, and interest in explaining individual, marital status, and age variations in men's boredom during unstructured free time.

9.2 Hypotheses

It was hypothesised that:

1. Boredom during free time would be higher when lower ratings of meaningful activity during free time constrained men's capacity to overcome loneliness during free time and to engage in free time activities in an interested manner.
2. Compared to married men, unmarried men would be more bored during free time because they would be less likely to sustain meaningful activity during free time, and would be lonelier and less interested during free time.
3. Compared to older men, younger men would be more bored during free time because they would be less likely to sustain meaningful activity during free time, and would be lonelier and less interested during free time.
4. In comparison to men who were less bored and lonely during structured time, men who were more bored and lonelier during structured time would be more bored and lonelier during free time and would be less likely to sustain meaningful activity and interest during free time.

Figure 9 shows the hypothesised model. Rectangles represent each variable and one-way arrows represent a hypothesised direct relationship between two variables. The absence of a one-way arrow indicates that no direct relationship was hypothesised. Curvilinear arrows

indicate a hypothesised relationship between the variables, but that no predictions were made about the relationships (Tabachnick & Fidell, 2001). Measurement error for each variable, which was estimated and removed from the relationships between the variables (Ullman, 2001), is represented by the letter 'e' surrounded by a circle.

The dependent variable was boredom during free time. The exogenous independent variables (Hair et al., 1995) that were not predicted by any other variable in the model were marital status, age, and boredom during structured time, and loneliness during structured time. To calculate the variables representing boredom during structured time and loneliness during structured time, the scores for boredom during contracted time and boredom during committed time, and the scores for loneliness during contracted time and loneliness during committed time were respectively summed and divided by two and mean scores for both variables were calculated. The variable representing marital status was dummy coded (married = 1; other = 0) (Tabachnick & Fidell, 2001; Ullman, 2001). The endogenous variables, which may be dependent variables in at least one causal relationship and an independent variable in other hypothesised relationships (Hair et al., 1995), were meaningful activity during free time, loneliness during free time, and interest during free time.

The following direct, indirect, and mediator effects were hypothesised:

9.2.1 Direct effects and indirect effects

1. Decreased interest during free time would directly predict increased boredom during free time.
2. Increased loneliness during free time would directly predict increased boredom during free time.
3. Increased boredom during structured time would directly predict increased boredom during free time.
4. Increased meaningful activity during free time would directly predict increased interest during free time.

5. Increased meaningful activity during free time would directly predict reduced loneliness during free time.
6. Increased loneliness during structured time would directly predict increased loneliness during free time.
7. Increased age, being married, and reduced boredom during structured time and reduced loneliness during structured time would directly predict increased meaningful activity during free time.
8. Increased boredom during structured time would indirectly predict reduced interest during free time through its direct effect on reduced meaningful activity during free time.
9. Increased boredom during structured time would indirectly predict increased loneliness during free time through its direct effect on reduced meaningful activity during free time.
10. Increased boredom during structured time would indirectly predict increased boredom during free time through its direct effect on reduced meaningful activity during free time, and its indirect effects on reduced interest and increased loneliness during free time.
11. Increased loneliness during structured time would indirectly predict reduced interest during free time through its direct effect on reduced meaningful activity during free time.
12. Increased loneliness during structured time would indirectly predict increased loneliness during free time through its direct effect on reduced meaningful activity during free time.
13. Increased loneliness during structured time would indirectly predict increased boredom during free time through its direct effects on reduced meaningful activity

and increased loneliness during free time, and its indirect effect on reduced interest during free time.

9.2.2 Mediator effects

1. The relationship between increased meaningful activity during free time (a) and reduced boredom during free time (c) would be mediated by increased interest during free time (b_1) and reduced loneliness during free time (b_2).
2. The relationship between being married (a) and reduced loneliness during free time (c) would be mediated by increased meaningful activity during free time (b).
3. The relationship between being married (a) and increased interest during free time (c) would be mediated by increased meaningful activity during free time (b).
4. The relationship between being married (a) and reduced boredom during free time (c) would be mediated by increased meaningful activity during free time (b_1), increased interest during free time (b_2), and reduced loneliness during free time (b_3).
5. The relationship between increased age (a) and reduced loneliness during free time (c) would be mediated by increased meaningful activity during free time (b).
6. The relationship between increased age (a) and increased interest during free time (c) would be mediated by increased meaningful activity during free time (b).
7. The relationship between increased age (a) and reduced boredom during free time (c) would be mediated by increased meaningful activity during free time (b_1), reduced loneliness during free time (b_2), and increased interest during free time (b_3).

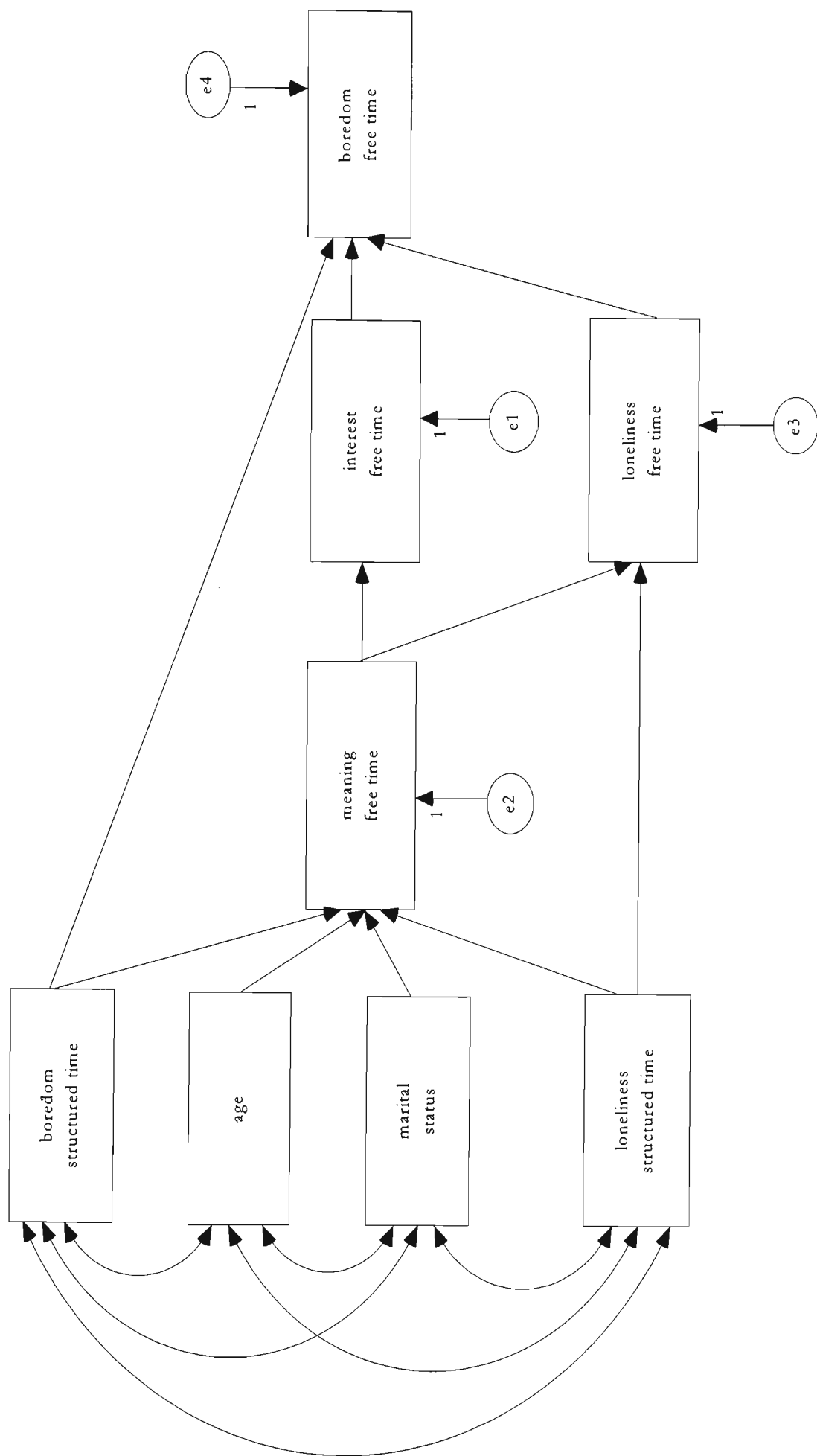


Figure 9
Hypothesised Model Predicting Boredom during Free Time

Baron and Kenny (1986) argued that to show mediation, a statistically significant path between the independent variable (a) and the mediator (b) must be demonstrated. Statistically significant paths must also be shown between the mediator (b) and the dependent variable (c) and between the independent variable (a) and the dependent variable (c). Thus, all three paths should be individually significant. When the independent variable and the mediating variable are included as simultaneous predictors of the dependent variable, mediation is demonstrated when the strength of the relationship between (a) and (c) is reduced. Maximum support for the mediational model occurs when the path between (a) and (c) is reduced to non-significance. Thus, the direct relationships between meaningful activity during free time and boredom during free time, marital status and loneliness during free time, marital status and interest during free time, marital status and boredom during free time, age and loneliness during free time, age and interest during free time, and age and boredom during free time were hypothesised to be non-significant. Therefore, the paths between each respective pair of variables were not tested in the model.

The initial conditions of mediation were tested by examination of the Pearson's Product Moment correlation coefficients among the variables in the hypothesised model (Baron & Kenny, 1986). Table 21 shows that all of the independent variables, except for age, were significantly correlated with the mediator variables. All of the mediator variables were significantly correlated with each of the dependent variables, and the independent variables were all significantly correlated with each respective dependent variable. These results provide a strong preliminary basis to test for mediation (Baron & Kenny, 1986).

Table 21
Pearson's Product-Moment Correlation Matrix for all Variables in the Hypothesised Causal Model

	1	2	3	4	5	6	7
Age (1)							
Marital status (2)	.43**						
Boredom structured (3)	-.10	-.14					
Loneliness structured (4)	-.06	-.13	.51**				
Meaning free time (5)	.04	.22**	-.19**	.01			
Loneliness free time (6)	-.13	-.23**	.22**	.57**	-.15*		
Interest free time (7)	.09	.20**	-.26**	-.14	.39**	-.32**	
Boredom free time (8)	.34**	-.24**	.41**	.26**	-.39**	.52**	-.54**

** $p < .01$, * $p < .05$

9.3 Research design

The hypothesised direct, indirect, and mediator effects were tested using Structural Equation Modelling (SEM) with Analysis of Moment Structures (AMOS) 4.0 (Arbuckle, 1999). SEM is a contemporary statistical technique used to test theoretical models, and is more powerful than simple regression techniques (Arbuckle, 1999). SEM is a confirmatory rather than an exploratory technique. Its goal is to test a model, modify an existing model or test a series of related models that are all theoretically justified (Ullman, 2001). A structural equation (similar to a regression equation) for each dependent variable examined the hypothesised multiple and interrelated dependence relationships. The structural equations were translated into a set of parameter estimates to indicate the amount of variance in the dependent variables that was accounted for by the independent variables. Standardised regression weights were calculated for each path. Direct effects and mediational hypotheses were tested by examination of the significant regression weights (Baron & Kenny, 1986; Ullman, 2001).

9.3.1 Assumptions of structural equation modelling (SEM)

SEM has the assumptions of multivariate normality and linearity, which were evaluated using SPSS for Windows and AMOS 4.0 (Tabachnick & Fidell, 2001; Ullman, 2001). Multivariate outliers were identified using Mahalanobis distance, and were deleted (Tabachnick & Fidell, 2001). The distributions of the variables representing marital status, meaningful activity during free time, and boredom and loneliness during structured time were slightly non-normal. However, no distributions substantially departed from normality, as the skewness and kurtosis for each variable did not exceed 2 and 7 respectively (West, Finch & Curran, 1995). Although the sample size was slightly smaller than the recommended number of 200 (Hair et al., 1995), it did exceed the minimum criteria of five observations for each estimated parameter (Hair et al., 1995).

The model was tested using the maximum likelihood estimation method (ML). The ML method is the most commonly used approach in SEM and has been found to provide valid results with smaller sample sizes and to be robust to moderate violations of the assumption of normality (Chou & Bentler, 1995; Hair et al., 1995; Hoyle & Panter, 1995). To define the

scale of the latent measurement error variables, the path coefficients from each factor to the measured variables were set to 1 (Ullman, 2001).

There is currently no single statistical test that best describes the fit of the model (Hair et al., 1995; Hoyle & Panter, 1995; Munro, 2001; Ullman, 2001). Based on contemporary recommendations, the Chi-square absolute fit index, the χ^2/df index, the GFI goodness-of-fit index, and the CFI and IFI comparative fit indices were used to evaluate the fit of the model to the data. The AIC and CAIC were used to evaluate the parsimony of the model (Hair et al., 1995; Munro, 2001; Ullman, 2001; West et al., 1995).

The most common measure of overall fit is the Chi-square statistic (χ^2). A non-significant χ^2 value is preferred to confirm the null hypothesis that there is no difference between the data and the model (Hair et al., 1995; Hoyle & Panter, 1995). Another general ‘rule of thumb’ for assessing overall model fit is to adjust the χ^2 statistic by the degrees of freedom. If the ratio of χ^2 relative to the degrees of freedom is small, then a good fitting model is indicated. Critical values of 2 (Ullman, 2001) and 3 (Munro, 2001) have been suggested. Goodness-of-fit and comparative fit indices can range from 0 to 1. Values greater than .90 indicate a good model fit (Hair et al., 1995; Hoyle & Panter, 1995; Munro, 2001; Ullman, 2001). Smaller values of the Akaike Information Criterion (AIC) and the Consistent Akaike Information Criterion (CAIC) indicate a good fitting model, but indices are not scaled between 0 and 1 (Ullman, 2001). Parsimony of the model is reported when the AIC and CAIC values are smaller than the values reported for other competing models (Ullman, 2001).

9.4 Results

9.4.1 Model estimation

The hypothesised model provided a poor fit to the data according to the χ^2 statistic, $\chi^2(12,181) = 65.33, p=.0001$, and the relative $\chi^2:\text{df}$ ratio test statistic, $\chi^2:\text{df}$ ratio = 5.44. The comparative fit indices also indicated a poor model fit, GFI = .92; IFI = .87; CFI = .87 (AIC = 113.33; CAIC = 214.09).

On the recommendation of Ullman (2001), the computed modification indices and standardised regression weights produced by AMOS 4.0 were examined in an attempt to develop a better fitting model. As there is currently no procedure in SEM to adjust for inflated Type I error rates, alpha was apportioned at .01 for adding parameters, as suggested by Ullman (2001). The paths predicting meaningful activity during free time from age, and from loneliness during structured time to meaningful activity during free time were non-significant ($p > .05$) and were deleted from the model. The significant modification indices were for the paths predicting boredom during free time from age ($\chi^2 = 18.21, p = .0001$), loneliness during free time to interest during free time ($\chi^2 = 12.69, p = .0001$), boredom during structured time to interest during free time ($\chi^2 = 8.91, p = .009$), and from loneliness during structured time to interest during free time ($\chi^2 = 6.81, p = .009$). The paths between age and boredom during free time and between boredom during structured time and interest during free time were added to the model. Because of the shared variance between loneliness during structured time and loneliness during free time, only the path between loneliness during free time and interest during free time was added (Ullman, 2001).

A Chi-square difference test was conducted to determine whether the deletion and addition of the paths described above significantly improved the fit of the model (Ullman, 2001). The model was significantly improved after modification ($\chi^2_{diff}(1,181) = 36.53, p = .0001$). The fit indices and parsimony indices all indicated a better fitting, more parsimonious model after modification (GFI = .96; CFI = .96; IFI = .96; AIC = 78.79; CAIC = 183.76). Examination of the modification indices revealed no further significant paths. The final fitted model with the significant standardised regression coefficients and the parameter estimates to indicate the amount of variance in each dependent variable that was accounted for by the independent variables is presented in Figure 10. Figure 10 shows that all of the coefficients, presented in standardised form alongside each hypothesised path, were statistically significant. The parameter estimates, shown above each dependent variable, indicate that the model accounted for 57% of the total variance in boredom during free time, 47% of the variance in loneliness during free time, 24% of the variance in interest during free time, and 9% of the variance in meaningful activity during free time.

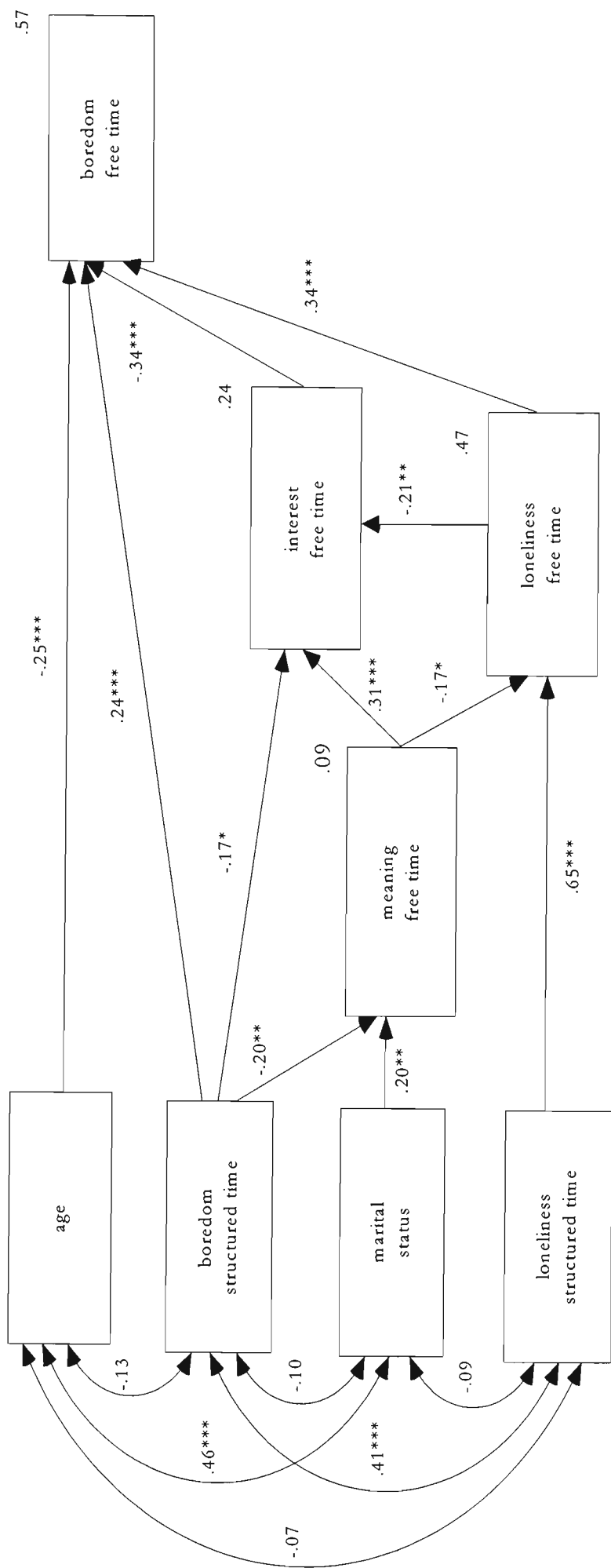


Figure 10
Structural Equation Model Predicting Boredom during Free Time
 *** $p < .001$, ** $p < .01$, * $p < .05$

9.4.2 Direct effects and indirect effects

Increased boredom during free time was directly associated with younger age (standardised coefficient = $-.25$, $p=.0001$), increased boredom during structured time (standardised coefficient = $.24$, $p=.0001$), reduced interest during free time (standardised coefficient = $-.34$, $p=.0001$), and increased loneliness during free time (standardised coefficient = $.34$, $p=.0001$). Men who rated free time activities as less interesting were lonelier during free time (standardised coefficient = $-.21$, $p=.003$), rated free time activities as less meaningful (standardised coefficient = $.31$, $p=.0001$), and were more bored during structured time (standardised coefficient = $-.17$, $p=.02$). Men who were lonelier during free time were lonelier during structured time (standardised coefficient = $.65$, $p=.0001$), and rated free time activities as less meaningful (standardised coefficient = $-.17$, $p=.002$). Men who derived more meaning from free time activities were married (standardised coefficient = $.20$, $p=.006$) and were least bored during structured time (standardised coefficient = $-.20$, $p=.006$).

Men who were more bored during structured time were indirectly lonelier during free time (standardised coefficient for indirect effects = $.03$), were less interested during free time (standardised coefficient for indirect effects = $-.07$), and were more bored during free time (standardised coefficient for indirect effects = $.09$). Men who were lonelier during structured time were indirectly less interested during free time (standardised coefficient for indirect effects = $-.13$), and more bored during free time (standardised coefficient for indirect effects = $.27$). Men who were lonelier during free time were indirectly more bored during free time (standardised coefficient for indirect effects = $.07$).

9.4.3 Mediator effects

The relationship between increased meaningful activity during free time and reduced boredom during free time was mediated by increased interest during free time and reduced loneliness during free time (standardised coefficient for total indirect effects = $-.17$). The relationship between being married and reduced loneliness during free time was mediated by increased meaningful activity during free time (standardised coefficient for indirect effects = $-.03$). The relationship between being married and increased interest during free time was mediated by increased meaningful activity during free time (standardised coefficient for

indirect effects = .07). The relationship between being married and reduced boredom during free time was mediated by increased meaningful activity during free time, increased interest during free time, and reduced loneliness during free time (standardised coefficient for total indirect effects = -.03).

9.5 Discussion

It was hypothesised that boredom during free time would be higher when a reduced capacity to sustain meaningful structured free time activity constrained men's abilities to overcome loneliness and to engage in leisure time activities in an interested manner. The results of the structural equation model showed that boredom during free time occurred when a lower levels of meaningful free time activity constrained men's abilities to overcome boredom during structured time and loneliness during free time to engage in leisure activities in an interesting way. Also consistent with the hypothesis, relative to unmarried men, married men rated free time activities as significantly more meaningful, they were significantly less lonely, significantly more interested, and significantly less bored during free time. Supporting the hypothesis, younger men were significantly more bored than older men, although contrary to expectations, there were no differences between older and younger men for ratings of meaningful activity, loneliness, interest, and boredom during free time. Also congruent with the hypotheses, men who were more bored and lonelier during structured time were more bored and lonelier during free time and were less interested during free time. Men who were bored during structured time were less likely to sustain meaningful activity during free time, although there was no significant path between loneliness during structured time and meaningful activity during free time.

9.5.1 Direct predictors of boredom during free time

9.5.1.1 Interest during free time

Consistent with the hypothesised direct path between interest during free time and boredom during free time, participating in a leisure activity because it was interesting was significantly associated with lower levels of boredom. The direct relationship between increased interest and reduced boredom was congruent with the literature (Farmer & Sundberg, 1986; Green-

Demers et al., 1998; Hamilton, 1981) and supported the self-regulation model of interest (Harackiewicz & Sansone, 1991; Sansone & Smith, 2000). Thus, the ability to regulate motivation by engaging in free time activities in an interesting and involving way appeared to be a major factor in the attenuation of boredom during free time. It may not just be the ability to entertain oneself during unstructured time that is sufficient to reduce feelings of boredom (Hamilton, 1981; McBain, 1970; Watt & Blanchard, 1994). Activities that a person wants to do and feels like doing (“I wanted to more than anything else”) may be more important in achieving optimal arousal. These results also suggest that intrinsic motivation and interest may be conceptually similar. Thus, boredom during free time may also be understood, in part, as a disruption in the intrinsic motivation process (Iso-Ahola & Weissinger, 1987; 1990; Weissinger et al., 1992).

The descriptive data showed that men spent the majority of their free time in passive leisure activities and were least likely to report engaging in those activities because they wanted to more than anything else. This finding suggests that during a large proportion of free time, men were not motivated to participate in leisure in an interesting and involving way (Sansone & Smith, 2000). Hence, the majority of men’s free time may not have been optimally arousing, and may not have been experienced as leisure (Csikszentmihalyi, 1990; Csikszentmihalyi & LeFevre, 1989; Graef et al., 1983; Iso-Ahola, 1979; 1980; 1997; Mannell et al., 1988; Neulinger, 1974; 1981; Roberts, 1981). These findings highlight the importance of leisure-based training to teach men to generate strategies to make free time activities more interesting or to find alternative and more interesting activities during free time to improve their leisure experiences (Sansone & Smith, 2000).

9.5.1.2 Loneliness during free time

The results supported the hypothesis that increased loneliness during free time would significantly predict increased boredom during free time. These results were consistent with previous reports of a positive correlation between loneliness and boredom (Farmer & Sundberg, 1986; Moore & Schultz, 1983; Rubenstein & Shaver, 1982, Russell et al, 1978; Stuewe-Portnoff, 1988). This finding indicates that Australian men who were bored during free time were also lonely during free time, and adds to knowledge by showing how loneliness may exacerbate feelings of boredom during free time (Harris, 2000). Thus,

perceptions of 'no one around' may translate to 'nothing to do' (Harris, 2000; Larson & Richards, 1991; Shaw et al., 1996). This may be a direct effect or perceptions of boredom may be influenced by negative affective states such as passivity, inactivity, or restlessness (Perlman et al., 1978; Rubenstein & Shaver, 1982; Russell et al., 1978). Loneliness and boredom both correlate with depressive affect and may be symptoms of a single underlying construct (Ernst & Cacioppo, 1999; Farmer & Sundberg, 1986).

Loneliness has largely been ignored in conceptualisations of boredom. However, the strength of the association between loneliness and boredom in this study, after adjustment for the effects of other variables in the model, underscores the important role that it may play in the development of boredom during free time. These data suggest that boredom may not be the antithesis of interest (Green-Demers et al., 1998; Todman, 2003), and that boredom during free time may not be due solely to a disruption in the intrinsic motivation process (Iso-Ahola & Weissinger, 1987; 1990; Weissinger et al., 1992). These findings indicate that men who were less lonely during free time and engaged in free time activities because they wanted to more than anything else were less likely to experience boredom during free time. These findings suggest that in addition to skills-based training to make leisure time activities more interesting, it may be necessary to improve the loneliness coping skills of some men who are prone to experiencing free time as boring.

9.5.1.3 Boredom during structured time

Consistent with the hypothesis, increased boredom during structured time directly and significantly predicted increased boredom during free time. The direct relationship between boredom during structured time and boredom during free time remained after all variables had been adjusted for in the structural equation model. This result indicates that men who were bored during paid work, while studying, and during domestic and childcare activities were more likely to be bored during free time. The findings were consistent with and extend previous reports of a spill-over effect of boredom at school and during leisure time among groups of adolescents (Larson & Richards, 1991; Robinson, 1975; Shaw et al., 1996). Although the causality inferred by the model was theoretically driven, it is unknown whether boredom during structured time increased boredom during free time or *vice versa*. It is probably more accurate to suggest that there was a feedback loop, whereby boredom during

free time also increased perceptions of boredom during structured time activities. Thus, contrary to Iso-Ahola and Weissinger (1987), boredom during free time may not be specific to leisure time activities, but rather, the emotion may generalise to other domains of life.

This finding has implications for the well-being of employees. Bored employees have more workplace accidents and exhibit poor work performance (Fisher, 1993; O'Hanlon, 1981), and they are less satisfied with their jobs (O'Hanlon, 1981; Ross & Altmaier, 1994). Monotony at work has been associated with property damage (Drory, 1982), and physical and emotional health complaints (Smith, Cohen, & Stammerjohn, 1981). Although boredom is not believed to be a stressor (Bryant & Zillmann, 1984; O'Hanlon, 1981; Thackray, 1981), monotony and repetition at work are associated with work-related stress (Ross & Altmaier, 1994). Thus, in addition to improving the leisure experiences of men, the development of interesting free time projects may increase productivity and well-being in the workplace (Fisher, 1993). The results also highlight the ways in which positive changes at work may improve men's well-being at home. Men who may perceive little control at work, who are employed in monotonous and routine jobs, and/or men who feel as though they have few opportunities for advancement or a career change may benefit from participating in a wide range of workplace training programs to increase their skill bases. They may also benefit from longer-term institutional study to gain additional qualifications; thus improving not only their career prospects, but also the quality of their free time.

The structural equation model showed that although interest is believed to exist on a continuum with boredom (Green-Demers et al., 1998; Sansone & Smith, 2000; Todman, 2003), boredom persisted independently of interest. The results suggest that men who were more bored during structured time were not those who had something more or less interesting to do during free time. In contrast, men who were bored during structured time appeared to take a more passive, amotivated, and lethargic approach to leisure time rather than actively finding meaning or creating interest in their activities. Men who perceived structured time activities as boring may have redefined free time activities more negatively or distorted the boringness of leisure time activities. They may have anticipated the experience of leisure boredom or predicted an inadequately stimulating leisure environment (Todman, 2003). These findings indicate that some men may be prone to chronic boredom regardless of their environmental or situational conditions (Bernstein, 1975; Todman, 2003). Hence,

any intervention strategies used to attenuate boredom may need to include the treatment of people's distorted perceptions of the general environment prior to engaging in skills-training to increase interest.

9.5.1.4 Age

The direct negative and significant relationship between age and leisure boredom was contrary to the hypothesis. This finding suggests that younger men were more bored during free time than older men, regardless of their feelings of loneliness, or their capacity to sustain meaningful free time activity or to engage in leisure activities in an interesting manner. The age effect for boredom was congruent with the findings of Weissinger et al (1992) and Gordon and Caltabiano (1996), but was inconsistent with the results reported by Iso-Ahola and Weissinger (1987) and by Gordon and Caltabiano (1996) in a sample of Australian rural students. The inconsistent findings may be due, in part, to the current study employing a larger sample that was more representative of the age distribution in the population. Furthermore, age differences in leisure boredom may interact with sex, whereby leisure boredom is greater for younger men than for younger or older women, although, no studies have directly tested this hypothesis. However, the results of the structural equation model indicate that the reasons why small or non-significant age differences were found on the Leisure Boredom Scale is that age differences in boredom during leisure may be independent of intrinsic motivation (interest). These results provide further evidence that the conceptualisation of leisure boredom as just a disruption in the intrinsic motivation process may not be valid (Iso-Ahola & Weissinger, 1987; Weissinger et al., 1992).

Although the three mediating constructs (meaningful activity, loneliness, and interest) were important and necessary in the sample tested, they may be less important to the development of leisure boredom during men's earlier years. Thus, younger men reported being more bored during unstructured free time than older men did for reasons unexplored in the model. The importance of other factors that may directly or indirectly affect leisure boredom is attested to by the fact that 43% of the variance in boredom during free time was left unexplained. It has previously been suggested that distorted perceptions of the slowness or the emptiness of unstructured time may exacerbate younger men's boredom during free time (see Section 8.5.3). Iso-Ahola and Weissinger (1987) found that a lack of friends and a lack

of money made small, but significant contributions to leisure boredom. Thus, situational factors may uniquely constrain younger people's leisure behaviour. Future models of boredom during free time may need to incorporate constraint concepts, such as a lack of money, transport, and/or few entertainment venues.

9.5.2 Mediator and indirect effects

9.5.2.1 Meaningful activity, interest, loneliness, and boredom during free time

It was hypothesised that increased meaningful activity would be significantly related to decreased boredom, and that interest and loneliness would mediate the relationship during free time. The results of the structural equation model supported the hypotheses. The findings provide preliminary evidence for why some men are more likely than others to perceive free time as boring. Specifically, a reduced capacity to sustain meaningful activity during unstructured free time appeared to be a major factor leading to perceptions of boredom by impeding men's capacities to overcome loneliness and engage in free time activities in an interesting and involving way.

These results provided empirical evidence for the theoretical association between meaningful activity and boredom (Barbalet, 1999; Csikszentmihalyi, 1975; Fiske & Maddi, 1961; Healy, 1984; Iso-Ahola & Crowley, 1991). The findings provided tangential support to previous reports of an association between boredom and a lack of meaning or purpose in life (Orcutt, 1984; Weinstein et al., 1995) and a lack of goals (Harris, 2000; Larson & Richards, 1991; Locke & Bryan, 1967; Locke & Latham, 1990; Shaw et al., 1996). They also confirm Vodanovich and Watt's (1999) findings of a negative relationship between the purposeful use of time and boredom when time structure was low. The results of the current study add to that knowledge by showing that a relationship between meaningful activity and boredom existed during men's unstructured free time. The findings also highlighted the important mediating roles that loneliness and lower levels of interest may have in explaining the association between a reduced capacity to sustain meaningful activity and boredom during unstructured free time.

A weakness of the Leisure Boredom model is that it provided no indications of the ways in which intrinsic motivation (or interest) could be enhanced (Iso-Ahola & Weissinger, 1987; Weissinger et al., 1992). The current study focussed on the meaningfulness of free time activities rather than examining only personality dispositions. It was found that what made a man want to do an activity depended on, largely, the degree to which that task was perceived as meaningful. Although purpose and target goals during free time were not operationalised in the current study, it was theorised that ratings of meaningful activity corresponded to personally adopted goals that had multiple determinants. The results of this study empirically validated that theoretical reasoning by showing that any personally adopted goals that corresponded to perceiving activities as meaningful were adaptive because they promoted interest and reduced boredom during free time. These results were consistent with other studies that found a direct relationship between subjective evaluations of meaningful activity and increased interest in an activity (Ball & Orford, 2002; Green-Demers et al., 1998; Isaac et al., 1999; Sansone et al., 1992; Werner & Makela, 1998). The findings supported Sansone and colleagues' central thesis that attributing a reason to persist in a task (perceiving the activities as meaningful) would make the activities more interesting (Sansone et al., 1992; Sansone & Smith, 2000).

The negative and significant direct path between meaningful activity and loneliness during free time were consistent with previous research that found that engaging in meaningful activities could alleviate feelings of loneliness (de Jong-Gierveld & Raadschelders, 1982; Mahon et al., 1996; Torrence, 1976). These results also add to the literature in relation to the link between goals and affect. In addition to feelings of sadness, disappointment, dissatisfaction, rejection, and symptoms of depression and anxiety (Dweck & Leggett, 1988; Elliott & Dweck, 1988; Higgins, 1987; 1997), when men fail to achieve free time goals, they may experience loneliness.

Unexpectedly, an increase in loneliness during free time indirectly and significantly predicted an increase in boredom during free time through its effect on reducing interest during free time. Thus, men who were lonelier during free time were also less interested during free time, regardless of their capacity to sustain meaningful activity during free time. This finding suggests that the potential to reduce loneliness during free time was associated with 'wanting to do an activity more than anything else'. Conversely, the inability to reduce loneliness

during free time was associated with perceiving that there was 'nothing else to do', 'wishing to be doing something else', or 'having to' do an activity. These findings provided support to previously reported relationships between affective states and levels of interest (Graef et al., 1983; Sansone et al., 1989), and provide initial empirical evidence for the hypothesised link between goals and interest via affect (Linnenbrink & Pintrich, 2000). The mechanism through which loneliness may be related to interest is unknown. It is possible that feelings of loneliness translate into feelings of restlessness (Russell et al., 1978), passivity, and lethargy (Perlman et al., 1978; Rubenstein & Shaver, 1982). These emotions may lead a man to conclude he has no reason to engage in leisure activities in an interesting manner. Furthermore, a man may not be engaged in the interesting aspects of leisure owing to him being focussed on his loneliness.

Boredom and loneliness are moderately correlated, and share similar symptomatology and behavioural and health outcomes (Ahmed, 1990; Andersson, 1993; Blaszczynski et al., 1990; Brage et al., 1993; DeBerard & Kleinknecht, 1995; Farmer & Sundberg, 1986; Hsu et al., 1986; Jackson & Cochran, 1990; Larson & Richards, 1991; McGiboney & Carter, 1988; Perlman et al., 1978; Rubenstein & Shaver, 1982; Vodanovich et al., 1991). Investigating the relationships between loneliness and boredom in a structural equation model has been noteworthy, as it has enabled an understanding of the aetiology of their shared variance. Thus, the overlapping variance between boredom and loneliness may be partly identified by the constructs of meaningful activity and interest.

These findings have practical as well as scientific value. They demonstrate the potential strength of loneliness in constraining men's abilities to enhance interest and overcome boredom during free time, and offer some insight into the ways in which loneliness during free time may be sustained. The results of the current study also offered evidence of the intervening potential of meaningful activity in reducing men's loneliness and boredom during free time. Encouraging men to engage in leisure activities in the context of meaningful relationships (i.e. immediate and extended family) may be one effective intervention strategy for the treatment of loneliness and boredom. Emphasis could be placed on rebuilding relationships for men whom may be estranged from family members. Other men who may be living away from or have no family ties could be encouraged to become involved in the family activities of friends, neighbours, and work colleagues. Training in leisure-seeking skills

as a prelude to a more general hobby skills-based or vocational skills training curriculum may also be appropriate (Todman, 2003). Helping others has also been shown to relieve boredom in the workplace (Fisher, 1993) and therapies that include social skills training with volunteer work placements may improve the leisure lives of boredom prone and lonely men. These longer-term, structured, work-like activities provide goal directed tasks, regular contact with others, and shared activities. They may be particularly useful for younger men who appear to be most vulnerable to perceiving unstructured time negatively.

With boredom being associated with symptoms of depression, anxiety, and obsessive-compulsive disorder, as well as the more severe psychotic and mood disorders (Ahmed, 1990; Blaszczynski et al., 1990; Farmer & Sundberg, 1986; Sommers & Vodanovich, 2000; Vodanovich et al., 1991), a cognitive-behavioural approach that combines goal-directed therapy with methods that aim to modify distorted thoughts about the environment, may be especially helpful for the mentally ill. This therapeutic model may be particularly useful for depressed people, for whom inactivity and disinterest are most pervasive. A possible effective approach may be one that initially encourages small personally meaningful projects to facilitate general activity that gradually builds to the development and maintenance of longer-term, meaningful, work-like activity.

9.5.2.2 Marital status, meaningful activity, loneliness, interest, and boredom during free time

The hypothesis that meaningful activity would mediate the relationships between marital status and loneliness and interest during free time was supported. The results indicated that married men were less lonely and more interested during free time than unmarried men, and this may be because married men perceived free time as significantly more meaningful than unmarried men did. This result suggests that the relationship often reported between being unmarried and loneliness may better be understood as a lack of meaningful activity during free time (de Jong-Gierveld & Raadschelders, 1982; Page & Cole, 1991a; Peplau & Perlman, 1982; Tornstam, 1992; Wood, 1978). Increased interest and reduced loneliness during free time, in turn, were significantly associated with lower ratings of boredom during free time, more for married men than for unmarried men. These results suggest that the presence of a

wife may have made the performance of men's free time activities less boring (Isaac et al., 1999) by reducing men's loneliness and influencing their perceptions of 'wanting to do an activity more than anything else'. This may be because having a spouse to do leisure activities with provided married men with a purpose or a reason for engaging in their free time activities (Green-Demers et al., 1998; Sansone et al., 1992; Sansone & Smith, 2000; Werner & Makela, 1998). Having a partner also increases the variety of leisure experiences and increased variety may increase interest (Altergott, 1990; Parker & Paddick, 1990; Samdahl & Jekubovich, 1993).

The results suggest that for men, loneliness and interest may both be defined in relation to the discrepancy between a desired and an achieved level of contact with a partner during free time. This definition suggests two issues. First, it supports the contention that popular measures of loneliness that do not include questions relating to men's social contact needs during leisure time may not be valid. Second, it draws attention to the possibility that the absence of a spouse is a demotivating factor for unmarried men during free time. These findings underscore the importance of attending to men's desires for and expectations of intimate relationships, not only in loneliness intervention frameworks, but also in relation to theories of motivation. These results provide a basis for assisting unmarried men to overcome loneliness and to increase motivation by challenging the importance placed on the spousal relationship at the expense of other meaningful relationships. As previously noted (Section 9.5.2.1) education about the loneliness reducing potential of alternative creative and meaningful pursuits and close friendships may assist men in this regard. Similarly, education and training could also be provided to married men. This may not only increase married men's ability to improve the meaningfulness of leisure time activities in general, but it may also provide them with the necessary coping skills following marital dissolution or bereavement. The findings may also have applicability to workplace productivity. Knowledge about the motivating potential of spouses may support any workplace policy that espouses men working from home.

The finding that marital status indirectly predicted boredom during free time via the mediating constructs of meaningful activity, loneliness, and interest during free time adds to the literature in relation to leisure boredom. Few studies have investigated marital status differences in leisure boredom, or boredom proneness, and the current study indicated that

unmarried men were more bored during free time than married men. The results of the structural equation model suggested that this may be due to unmarried men perceiving free time as less meaningful, and being less interested, and lonelier during free time than married men. Thus, in addition to loneliness, boredom may be particularly problematic for unmarried men. This finding has identified another possible psychological deficit for men arising from their reliance on the marital relationship to prevent or reduce loneliness. It also highlights an additional patriarchal benefit that married men may receive from women, and conversely, a possible masculinist inequality between married and unmarried men in the psychological experience of time.

9.5.2.3 Boredom during structured time, and meaningful activity, interest, loneliness, and boredom during free time

Increased boredom during structured time directly predicted lower ratings of meaningful activity during free time, and indirectly predicted a reduction in interest and an increase in boredom during free time, as hypothesised. These findings suggest that men who were more bored during structured time were less likely to sustain meaningful activity during free time, were less interested during free time, and were lonelier and more bored during free time. Consistent with the self-regulation model of interest, situational and personality factors moderate the effects of goals on interest (Sansone & Smith, 2000). The results add to this knowledge by showing that situational and personality factors, namely boredom during structured time, may also moderate the effects of goals on affect. This finding suggests that not only may boredom spill-over to other life domains, but it may also negatively affect other emotional states during free time when there is a reduced capacity to sustain meaningful activity.

Explanations for why boredom during structured time may have impeded a man's ability to sustain meaningful activity and interest during free time may be related to the importance placed on work. Men's foci on careers and the responsibilities associated with the primary breadwinner role may deter thoughts and plans about free time. A dependence on women to organise leisure activities may absolve men of any responsibility for developing leisure goals. These results further highlight the importance of sustaining meaningful activity during free time. They demonstrate that meaningful activity may be necessary not only to determine the

experience of interest and to reduce loneliness and boredom during free time, but also to negate the demotivating properties of boredom during structured time (Barron & Harackiewicz, 2000, Harackiewicz & Sansone, 1991; Sansone & Smith, 2000). Men taking responsibility for the development and maintenance of leisure goals would appear to be an effective strategy to combat work-related negative affect.

Contrary to expectations, an increase in boredom during structured time directly predicted a reduction in interest during free time. These results suggest that men who were bored during structured time were less likely to be interested during free time regardless of their capacity to sustain meaningful activity during free time. Thus, boredom during structured time may be directly demotivating during free time (Todman, 2003). This result is contrary to the self-regulation model. The model suggests that when people approach a less interesting task, they would not continue to perform the task unless they had some reason to persist (Sansone et al., 1992; Sansone & Smith, 2000). This unexpected path is difficult to interpret given the preliminary status of research in this area. It is possible that some men may actually anticipate the experience of disinterest during the transition from work to leisure (Todman, 2003). Time may be perceived, as Waugh (1975) described, as “endless, there is no distinction between past, present and future. There seems to be only an endless present” (p. 541). Perceptions of all activities being ‘in the same basket’ may directly translate into a lack of motivation to make free time activities more interesting. Men who may be constrained at work, particularly men who work longer hours, may feel as though free time is fragmented and difficult to use in any interesting way. For that reason, they may avoid leisure activities that require longer-term time commitments and skills learning (Robinson & Godbey, 1999). Families’ reliance on men’s wages may also translate into less free time choices and reduced leisure opportunities, and hence less interest. Additional research may be necessary to explore the ways in which situational and personality factors directly and negatively affect the experience of interest.

9.5.2.4 Loneliness during structured time, and loneliness, interest, and boredom during free time

The hypothesis that loneliness during structured time would directly predict loneliness during free time was supported. The high regression coefficient (.65) attests to the strength of

loneliness during structured time on predicting men's loneliness during free time. An increase in loneliness during structured time also indirectly predicted a reduction in interest and an increase in boredom during free time, as hypothesised, although the indirect effect occurred through an increase in loneliness during free time, but not through a reduction in meaningful activity during free time. Consistent with the findings of de Jong-Gierveld and Raadschelders (1982), the results of the current study showed that men who were lonelier at work, during study, and during domestic and childcare activities were significantly lonelier during free time. An addition to this knowledge is that men who were lonelier during structured time were also significantly less interested and more bored during free time. Thus, any sadness that men may have felt during contracted time appeared to spill-over to other domains of life and reduced the quality of men's leisure time experiences.

The direct and significant positive association between loneliness during structured time and loneliness during free time indicates that men who were lonelier during free time were not just those who found difficulty sustaining meaningful activity during free time. Thus, loneliness may be an incessant part of many men's lives that cannot be attributed to free time goals or marital status. This pattern implies that some men may be chronically lonely (Bradburn, 1969; Snodgrass, 1987), although the current study yielded little information as to what factors may have contributed to this emotion. Other aspects of gender relations not explored in the structural equation model may be involved in the relationship between loneliness during structured time and loneliness during free time. This may include perceptions of the quality of men's relationships with spouses, children, other family members, and friends (de Jong-Gierveld, 1986; Pinqart, 2003). The time men spend alone may be an important factor, particularly for unmarried men, and for married men who may be constrained for family reasons from engaging in joint leisure activities with their wives.

The significant inverse relationship between meaningful activity and loneliness during free time indicates that meaningful activity during free time may attenuate some of the negative effects of loneliness during structured time on loneliness during free time. Thus, although creative and meaningful projects during free time may not be directly be related to a reduction in loneliness during structured time, they may be sufficient to assuage some of its effects from the transition from work to leisure (de Jong-Gierveld & Raadschelders, 1982; Mahon et al., 1996; Torrence, 1976).

9.5.2.5 Age and loneliness during free time

With all the variables in the model, there was no indirect effect of age on loneliness during free time. The structural equation model showed a large coefficient between age and marital status (.46), suggesting that any effects of age on loneliness during free time were accounted for by marital status (Tornstam, 1992). Thus, for Australian men, marital status may be a more important demographic predictor of loneliness than age.

9.6 Summary and concluding remarks

The results of the current study have provided a possible explanation for why some men may be prone to experiencing boredom during free time. Men who lacked interest and were lonelier during free time were more likely to perceive free time as boring. The results of the study suggested that this might be due to men's inability to develop meaningful longer-term goal directed projects during free time and the boredom and loneliness associated with structured time. Theoretically, men may be constrained in doing so by current social structural and ideological factors that construct and reconstruct gender. Thus, based on the current study, boredom during free time may be conceptualised as a negative affective state that arises when the gendered division of labour constrains a man's ability to regulate behaviour to achieve optimal arousal by engaging in interest-enhancing and loneliness-reducing activities during leisure. Any patriarchal benefits that men may derive from the gendered division of labour, such as increased income, power, status, increased leisure time, and negative affect reduction may be offset by an inability to independently develop purposeful and goal directed activity during free time.

The current study has addressed several conceptual and theoretical gaps in the leisure literature. First, although meaningful activity is generally considered to reduce boredom, until now this hypothesis has not been directly tested (Csikszentmihalyi, 1975; Fiske & Maddi, 1961; Healy, 1984; Iso-Ahola & Crowley, 1991; Landon & Suedfeld, 1969; Orcutt, 1984; Perkins & Hill, 1985; Vodanovich & Watt, 1999; Weinstein et al., 1995). The current study has taken a number of steps towards uncovering the nature of that relationship. By focussing on gender relations and the social context of men's lives and how those factors influenced their cognitions and daily affective experiences, it was found that there were many

underlying constructs associated with boredom during free time in addition to a lack of intrinsic motivation.

The current study has highlighted the intervening potential of meaningful activity to increase interest and reduce boredom during free time, as well as its strength in preventing and reducing loneliness, and buffering any negative affect during structured activities. The results also indicated that there may be a need to alter men's perceptions of the importance of free time and the implementation of leisure education campaigns designed to espouse the potential of free time goals may be an effective starting point. The results of the current study have identified the need for social structural changes. Current legislation, government policy, and workplace ideologies that perpetuate masculinity and exclude men from deriving benefits from the combination of work and family may need to be addressed. Ironically, given the time that men spend watching television, the medium may be conveniently used to promote awareness of leisure goals and opportunities, as well as conveying images of men as active, willing, masculine participants in egalitarian family life.

Although the results of the current study have offered explanations for several previously unconfirmed associations in the literature, and has contributed to knowledge in relation to boredom during leisure, 43% of the variance in the construct remains unexplained. There were also several direct paths to boredom during free time that were not accounted for by the constructs in the model. These included the paths predicting boredom free time from age and from boredom during structured time. Therefore, although meaningful activity may be necessary to relieve boredom during free time, it is not sufficient. Other factors not explored in the current study need to be identified. Concepts such as enjoyment, satisfaction, liking, relaxation, and happiness may be associated with one or more of the variables identified in the model (Clark & Watson, 1988; Csikszentmihalyi, 1975; Kubey, 1986; Kubey & Csikszentmihalyi, 1990; Lawton et al., 1987). Other intrapersonal barriers may increase boredom, such as peer group attitudes, self-skill and talent, and the availability of leisure partners with similar levels of skill and ability (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991). Additional dimensions of gender relations could be explored. Wives may exclude husbands from decision-making about leisure time activities. This may have implications for how men spend free time and how that time is perceived. Wives' employment and hours at work may also affect men's free time use. For wives not in

the paid labour force, their relative lack of income may be an important constraint. It may affect living conditions and standards, home ownership, dwelling location and its proximity to extended family members, friends, the workplace, and community leisure activities and facilities.

The results of this phase of the study have further added to knowledge by showing additional, more elusive benefits that men may receive from marriage. Through the prevention or reduction of loneliness, and increased meaningful activity, married men may indirectly derive psychological benefits such as increased interest and reduced boredom during free time. A corollary of this finding is that many unmarried men may be denied these benefits. These findings suggest that psychological health benefits may be differentially distributed among masculinist hierarchies.

There may be disadvantages for other groups of men. Younger men were more bored than older men were, although possible reasons for that social psychological disadvantage were not identified during the current study. Furthermore, men who were more constrained at work, or who worked in monotonous or repetitive jobs, or who may be boredom prone, or chronically bored were also less likely to sustain meaningful activity during free time and to be less interested and lonelier and more bored during free time. These findings argue well for future research to explore specific dimensions of the gendered division of paid work to understand what factors may account for the high boredom scores during structured time. This may include an examination of the degree to which job tasks are perceived as monotonous or repetitive, opportunities for advancement, job satisfaction, and perceptions of the autonomy and control in the workplace. The effects of long working hours on men's affective experiences could be researched as well as the barriers that men may face in combining work and family. Future research may also investigate whether similar or other disadvantages are experienced by other subordinate masculinities, such as unemployed or homosexual men.

CHAPTER 10

PHASE 3: RELATIONSHIPS BETWEEN THE SUBJECTIVE ASPECTS OF UNSTRUCTURED FREE TIME AND LEISURE TIME USE

10.1 Aim

The aim of phase 3 was to identify the relationships between age, marital status, meaningful activity, loneliness, interest, and boredom during free time, loneliness and boredom during structured time, and time spent in active leisure, passive leisure, and social activities when known predictors of men's leisure time use were controlled.

10.2 Hypotheses

It was hypothesised that:

1. Increased boredom during free time would be associated with an increase in time spent in passive leisure, an increase in time spent in social activities, and a decrease in time spent in active leisure.
2. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and men's leisure time use after the variance associated with boredom during free time was accounted for.
3. Age and marital status variations in boredom during free time would account for any age and marital status variations in time spent in social activities, time spent in passive leisure, and time spent in active leisure.

10.3 Research design

Based on the recommendations of Pedhazur (1997) and Tabachnick and Fidell (2001), to examine the relationships between multiple independent variables on one or more dependent variables after controlling for any variance that the predictors share with each other,

hierarchical multiple regression analyses were performed. Hierarchical multiple regression analysis also allows for the examination of any changes to the relationships between the predictor variables already in the equation and the dependent variable after the inclusion of subsequent predictors (Pedhazur, 1997; Tabachnick & Fidell, 2001).

In all regression equations, the control variables were derived from the preceding literature review. The order of entry of the predictor variables into the equation was based on their causal sequence in the boredom during free time model (Figure 2) and their theoretical importance (Pedhazur, 1997; Tabachnick & Fidell, 2001). Boredom during free time was hypothesised to account for any relationships between the dependent variables and loneliness, interest, and meaningful activity, and it was entered into the regression equation at a separate step after entry of the control variables. Loneliness during free time and interest during free time were causally prior to boredom during free time and those two variables were entered into the equation as a set after boredom during free time had been entered. Meaningful activity during free time was then entered. Loneliness during structured time and boredom during structured time were two exogenous variables in the model and they were entered as a separate set of predictors in the final step (Pedhazur, 1997).

To control the familywise error rate, a Bonferroni type adjustment was made by dividing α by the number of dependent variables (Howell, 2002). There were 11 regression equations. Therefore, the familywise error rate was increased from .05 to .10 to reduce the likelihood of committing a Type II error (Howell, 2002). Thus, alpha was set at .009 for each analysis. To control the Type I error rate per comparison, any tests between an individual independent variable and the dependent variable were only permitted if the overall F test for a given set of predictors was significant at α (.009) (Cohen & Cohen, 1975; Pedhazur, 1997).

A correlation matrix of all predictors and dependent variables in all of the hierarchical regression analyses in this data analysis stage is presented in Table 22. Given the intercorrelations between some of the predictors and their shared variance, any test on an individual independent variable was not interpreted in terms of its relative strength in the prediction of the dependent variable, or the proportion of variance it shared with another (Howell, 2002; Pedhazur, 1997). Each hierarchical regression procedure was only interpreted

in light of the uniqueness, also known as the usefulness, of a particular independent variable in the prediction of the dependent variable (Howell, 2002; Pedhazur, 1997). The uniqueness of an independent variable was assessed by the significance of the regression coefficient between the independent variable and the dependent variable, based on a standard *t*-test at α (.009) (Cohen & Cohen, 1975). Any individual predictor that failed to meet the required significance level in the presence of a significant R^2 change at α was selected on the basis of its relative closeness to significance at α (Cohen & Cohen, 1975).

Forcing the control variables into the equation was critical to the research design (Pedhazur, 1997). Therefore, any set of control variables that failed to meet the significance level remained in the model. Any sets of predictor variables or individual predictors that did not meet the significance level (.009), but neared significance (.05), were noted and discussed in relation to their usefulness for future research.

10.3.1 Assumptions of hierarchical multiple regression

An analysis of the residuals was performed following an initial multiple regression run for each of the dependent variables (Tabachnick & Fidell, 2001). Any cases with a standardised residual of ± 3.3 were deleted from the analyses. Any further residual cases detected following subsequent regression runs were also deleted. Following the main analyses, an examination of the residuals scatterplots showed no major violations to the assumptions of linearity and homoscedasticity. No scatterplot was unequivocally normal. However, no extreme departures from normality were detected.

Multicollinearity was evaluated through the examination of the computed tolerances ($1 - \text{SMC}$), the condition indices, the variance proportions associated with each variable, and the Pearson's correlation coefficients between the independent variables, all produced by SPSS (Tabachnick & Fidell, 2001). Those diagnostics indicated the absence of multicollinearity and singularity for all analyses, as none of the tolerances ($1 - \text{SMC}$) approached zero, and no condition indices of $>.30$ were associated with at least two variance proportions at $>.50$ for any individual variable (Tabachnick & Fidell, 2001). Any variables with a correlation coefficient of .8 or higher were deleted from the analyses (Tabachnick & Fidell, 2001).

Table 22

Correlation Matrix for all Predictors and Dependent Variables for Hierarchical Multiple Regression Analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Marital status (1)																										
Age (2)	.43**																									
Education level (3)	-.01	-.04																								
Occupation status (4)	.07	-.06	-.28**																							
Number of children (5)	.59**	.20**	.09	-.02																						
Former smoker (6)	.22**	.14*	-.00	.20**	.16*																					
Current smoker (7)	-.05	.07	.14	.21**	-.06	-.26**																				
Medical history (8)	.05	-.13	.15*	.02	.05	.14	.07																			
Family history (9)	-.14	-.37**	.11	.07	-.05	-.21**	.15*	.03																		
Time active leisure (10)	-.11	-.12	-.09	-.07	-.19*	.02	-.19*	-.10	-.07																	
Time passive leisure (11)	.02	-.04	.24**	-.24**	.02	.03	.12	-.06	-.11	-.01																
Time social activities (12)	-.30**	-.11	-.12	-.03	-.30**	-.10	.02	-.04	-.01	.03	-.12															
Alcohol consumption home (13)	.15*	.22**	.08	.14	-.05	.16*	.25**	.10	-.12	.06	.04	-.16*														
Alcohol consumption bars (14)	-.35**	-.29**	-.01	.11	-.26**	-.03	.26**	.18*	-.07	.03	.16*	.04	.23**													
Weekly total alcohol intake (15)	-.07	-.02	-.03	.03	-.17*	.10	.23**	.10	-.05	.05	.09	-.04	.50**	.55**												
Weekly binge drinking (16)	-.13	-.07	.02	.10	-.11	.08	.33**	.11	-.02	.06	.06	-.14	.52**	.55**	.87**											
Weekly intoxication (17)	-.23**	-.22**	-.04	.06	-.21**	.11	.23**	.07	.07	.17*	.01	-.09	.36**	.55**	.75**	.80**										
Boredom free time (18)	-.24**	-.34**	.13	-.06	-.12	-.10	-.05	-.03	.13	-.02	.07	-.02	-.00	.19*	.02	.11	.22**									
Loneliness free time (19)	-.23**	-.13	-.16*	-.08	-.22**	.08	-.13	-.06	-.05	.17*	-.08	-.00	-.01	.09	.03	.07	.16*	.52**								
Interest free time (20)	.20**	.09	-.25**	.11	.08	.08	.02	.10	-.08	.11	.03	-.07	.08	.00	.04	-.02	-.05	-.54**	-.32**							
Meaning free time (21)	.22**	.04	-.03	.06	.06	.17*	-.07	.10	.05	.08	-.22**	.01	-.01	-.11	-.03	-.07	-.06	-.39**	-.15*	.39**						
Boredom structured time (22)	-.14	-.10	.16*	-.06	.00	-.01	-.02	-.06	.02	.09	-.01	.06	.11	.24**	.08	.14	.23**	.41**	.22**	-.26**	-.19*					
Loneliness structured time (23)	-.13	-.06	-.21**	.02	-.13	.18*	-.20**	-.00	-.11	.28**	-.16*	-.01	.19*	.21**	.18*	.21**	.35**	.26**	.57**	-.14	.01	.51**				
SF-12 physical health (24)	-.12	-.26**	-.13	.21**	-.08	-.19*	.03	-.06	.10	.18*	-.15*	.03	.04	.09	-.01	.07	.06	.15*	.13	-.05	.11	.11	.02			
SF-12 mental health (25)	.04	.07	.23**	.05	.01	-.12	.16*	-.03	.12	-.20**	.03	.04	-.04	-.12	-.01	-.08	-.20**	-.26**	-.40**	.01	.00	-.27**	-.48**	-.21**		
SSC (26)	-.04	-.15*	.09	-.14	-.04	.18*	.01	.11	-.05	-.02	.13	-.09	.03	.24**	.05	.13	.31**	.24**	.23**	-.06	-.11	.25**	.31**	-.33**	-.42**	
Time in contracted time (27)	-.01	-.20**	-.11	.08	.02	-.02	-.07	.07	.17*	-.26**	-.22**	-.23**	-.09	.07	-.06	-.04	-.04	.01	.06	.09	.03	-.12	-.03	-.04	-.01	.02

**p< .01, *p< .05

The dependent variables were time spent in active leisure, time spent in passive leisure and time spent in social activities. The predictor variables were those included in the boredom during free time model (Figure 2). The control variables were age, marital status, occupation status, number of children in the home, and time spent in contracted time. In the prediction of time spent in social activities, time spent in passive leisure was entered as a control variable, and for the prediction of time spent in passive leisure, time spent in social activities was entered as a control variable. Each regression equation proceeded in five steps. At the first step, the control variables entered the equation. In the next step, boredom during free time was entered. A significant increase in R^2 at $\alpha = .009$ at this step in the hypothesised direction would support hypothesis 1. Hypothesis 3 would be supported if the significant relationships between age and marital status and the dependent variable became non-significant at this step. In subsequent steps, the remaining variables in the boredom during free time model entered the equation as detailed in section 10.3. A non-significant change in R^2 at these steps would support hypothesis 2.

10.4.1 Boredom during free time and time spent in active leisure

The results of the regression analysis summarised in Table 23 show that at step 1, the set of control variables significantly predicted time spent in active leisure (R^2 change = .11, $F(5,174) = 4.19$, $p=.001$). Only time spent in contracted time uniquely and significantly predicted the dependent variable ($p=.001$), and the number of children in the home neared significance ($p=.02$). With the control variables adjusted for, boredom during free time did not add to the prediction of time spent in active leisure (R^2 change = .02, $F(1,173) = 3.21$, $p=.08$). At this step, the previously non-significant relationship between age and the dependent variable neared significance ($p=.04$). At the next step, loneliness during free time and interest during free time significantly predicted time spent in active leisure (R^2 change = .05, $F(2,171) = 4.87$, $p=.009$). Increased loneliness during free time uniquely and significantly predicted increased time spent in active leisure ($t(2,171) = 2.83$, $p=.005$). Meaningful activity during free time did not increase the prediction of the dependent variable (R^2 change = .00, $F(1,170) = 0.06$, $p=.81$). At step 5, the prediction of the dependent variable was significantly enhanced by the

inclusion of loneliness and boredom during structured time (R^2 change = .08, $F(2,168) = 8.43$, $p=.0001$). Increased loneliness during structured time significantly and uniquely predicted increased time spent in active leisure ($t(2,168)=3.83$, $p=.0001$), and the relationship between age and time spent in active leisure became stronger ($p=.02$).

Table 23
Hierarchical Multiple Regression of Boredom During Free Time on Time Spent in Active Leisure Controlling for Marital Status, Age, Occupation Status, Number of Children, and Time Spent in Contracted Time

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.20†	-.08	-.16	-.18	.65	0.11	4.19*
	Marital status	.07	-.09	.04	.05	.50		
	Occupation status	-.07	-.08	-.07	-.08	.95		
	Contracted time	-.31***	-.24	-.30	-.32	.91		
	Number of children	-.17†	-.18	-.13	-.15	.63		
2	Boredom free time	-.20†	-.07	-.14	-.15	.43	0.02	3.21
3	Loneliness free time	-.03	.13	-.02	-.02	.40	0.05	4.87*
	Interest free time	.10	.10	.08	.10	.64		
4	Meaning free time	-.03	.08	-.03	-.03	.75	0.00	0.06
5	Boredom structured time	-.04	.04	-.03	-.03	.65	0.08	8.43***
	Loneliness structured time	.40***	.27	.26	.28	.42		
Multiple R		0.50						
R ²		0.25						
Adjusted R ²		0.20						
F (11,168)		5.00***						

*** $p < .001$, * $p < .009$, † $p < .05$

10.4.2 Boredom during free time and time spent in social activities

Table 24 shows that the inclusion of the control variables at step 1 significantly predicted time spent in social activities (R^2 change = .21, $F(6,174) = 7.76$, $p=.0001$). Time spent in contracted time ($p=.0001$) and time spent in passive leisure activities ($p=.002$) uniquely predicted the dependent variable. The number of children in the household neared significance ($p=.03$). With the control variables adjusted for, no subsequent sets of variables significantly increased the prediction of time spent in social activities.

Table 24
Hierarchical Multiple Regression of Boredom During Free Time on Time Spent in Social Activities Controlling for Marital Status, Age, Occupation Status, Number of Children, Time Spent in Contracted Time, and Time Spent in Passive Leisure

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.11	-.11	-.09	-.10	.61	0.21	7.76***
	Marital status	-.10	-.28	-.07	-.08	.49		
	Occupation status	-.06	-.06	-.06	-.07	.93		
	Contracted time	-.30***	-.23	-.27	-.29	.84		
	Number of children	-.21†	-.29	-.16	-.18	.63		
	Time in passive leisure	-.25*	-.16	-.22	-.24	.76		
2	Boredom free time	-.01	.07	-.01	-.01	.43	0.00	0.00
3	Loneliness free time	.09	.06	.05	.06	.40	0.00	0.08
	Interest free time	.01	-.10	.01	.01	.63		
4	Meaning free time	.01	-.01	.01	.01	.70	0.00	0.01
5	Boredom structured time	.10	.08	.08	.09	.65	0.01	1.48
	Loneliness structured time	-.17	-.02	-.11	-.13	.42		
Multiple R		0.48						
R ²		0.23						
Adjusted R ²		0.17						
F (12,168)		4.08***						

*** $p < .001$, * $p < .009$, † $p < .05$

10.4.3 Boredom during free time and time spent in passive leisure

Table 25 shows that the set of control variables significantly predicted time spent in passive leisure (R^2 change = .17, $F(6,174) = 5.73$, $p=.0001$). Only age ($p=.009$), time spent in contracted time ($p=.0001$), and time spent in social activities ($p=.003$) were significantly and uniquely associated with the dependent variable. Occupation status neared significance ($p=.01$). With differences associated with the control variables adjusted for, boredom during free time did not account for a significant proportion of the variance in time spent in passive leisure (R^2 change = .00, $F(1,173) = 0.04$, $p=.84$). The inclusion of loneliness during free time and interest during free time did not significantly predict the dependent variable (R^2 change = .02, $F(2,171) = 1.66$, $p=.19$). At the next step, reduced meaningful activity during free time significantly predicted increased time spent in passive leisure (R^2 change = .08, $F(1,170) = 18.01$, $p=.0001$). The final set of variables incorporating loneliness and boredom

during structured time did not add to the prediction of time spent in passive leisure (R^2 change = .02, $F(2,168) = 2.51, p=.08$).

Table 25
Hierarchical Multiple Regression of Boredom During Free Time on Time Spent in Passive Leisure Controlling for Marital Status, Age, Occupation Status, Number of Children, Time Spent in Contracted Time and Time Spent in Social Activities

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.24*	-.08	-.19	-.22	.64	0.17	5.73***
	Marital status	.17	.06	.12	.14	.49		
	Occupation status	-.18*	-.19	-.18	-.20	.96		
	Contracted time	-.32***	-.24	-.29	-.33	.86		
	Number of children	-.07	.06	-.06	-.07	.61		
	Time in social activities	-.22*	-.14	-.20	-.23	.82		
2	Boredom free time	.02	.03	.01	.01	.44	0.00	0.04
3	Loneliness free time	.06	-.09	.04	.04	.40	0.02	1.66
	Interest free time	.18	.06	.15	.17	.65		
4	Meaning free time	-.29***	-.23	-.25	-.29	.75	0.08	18.01***
5	Boredom structured time	.01	-.04	.00	.01	.64	0.02	2.51
	Loneliness structured time	-.20†	-.20	-.13	-.15	.42		
Multiple R		0.53						
R ²		0.28						
Adjusted R ²		0.23						
F (12,168)		5.47***						

*** $p < .001$, * $p < .009$, † $p < .05$

10.5 Summary of main findings

1. After adjusting for age, marital status, occupation status, the number of children in the home, and time spent in contracted time, increased time spent in active leisure was significantly associated with increased loneliness during free time and increased loneliness during structured time. Reduced time spent in contracted time remained a significant predictor of increased time spent in active leisure after all variables had entered the regression equation.

2. A reduction in meaningful activity during free time significantly predicted an increase in the time spent in passive leisure when age, marital status, occupation status, the number of children in the home, time spent in contracted time, and time spent in social activities were controlled. After all variables had been adjusted for each other, increased time spent in passive leisure was also significantly associated with being younger, spending less time on contracted time activities, being unemployed, retired or a student, and spending less time on social activities.
3. None of the hypothesised variables significantly predicted increased time spent in social activities after the control variables had been accounted for. Men who spent less time in work, study, and passive leisure spent significantly more time in social activities.

10.6 Discussion

10.6.1 Boredom during free time and unstructured leisure time use

The present study examined the hypothesis that higher ratings of boredom during free time would predict increased time spent in passive leisure and social activities, and reduced time spent in active leisure. No evidence was found that boredom during free time discriminated between men who spent less or more time in unstructured versus structured-like leisure activities. These results were inconsistent with previous reported associations between unstructured leisure activities and negative affective and cognitive states (Kubey, 1986; Kubey & Csikszentmihalyi, 1990). These findings were also incongruent with the association between television viewing and other passive leisure activities and boredom during unstructured time in the empirical and theoretical literature (Csikszentmihalyi, 1988; Farnworth, 1998; Harris, 2000).

The lack of a significant negative relationship between boredom during free time and reduced time spent in active leisure was in contrast to Farmer and Sundberg's (1986) finding that boredom was associated with inactivity. This result was also inconsistent with Farnworth (1998) who found that criminal offenders were least likely to be bored when they engaged in active leisure and with Vodanovich and Watt (1999) who reported that the structured use of time reduced boredom. However, the near significant inverse relationships

found between time spent in active leisure and age when boredom during free time was entered into the regression equation suggests that spending more time in active leisure may be weakly related to reduced boredom during free time for younger men only. Thus, younger men may be least likely to be bored when they engage more frequently in active leisure pursuits, such as sports, games, hobbies, and arts and crafts. Interventions designed to increase younger men's participation in these types of activities may serve an important role in reducing perceptions of boredom.

The results of the current study showed that less time spent in paid work and study was significantly associated with spending more time in all leisure time activities. The relationship remained significant after all the subjective variables were accounted for. These data were in accordance with other time-use surveys that showed that time spent in paid employment was the strongest predictor of free time for men (Bittman, 1991; 1998; Robinson & Godbey, 1999; Thrane, 2000). Also consistent with previous research (ABS, 1997c; Frederick, 1995), younger age and unemployment were significantly related to spending more time in passive leisure. These results also remained significant after controlling for the subjective variables. The findings suggest that time-related and sociodemographic factors may explain more of the variance in men's leisure time behaviour than boredom during free time.

In support of previous research, the results of the current study indicated that men who had fewer structured time commitments and social roles appeared to have more free time and spent more time in passive leisure (ABS, 1997c; Bird & Fremont, 1991; Frederick, 1995; Gershuny, 2000; Mattingly & Bianchi, 2003; Robinson, 1981; 1990b; Salmon et al., 2003; Thrane, 2000). Increased age and a greater number of social roles may result in increased time demands, commitments, and constraints associated with those roles (Bond & Feather, 1988; Feather & Bond, 1983), and these factors appeared to reduce time spent in passive leisure more than for time spent in social activities and active leisure. Thus, passive leisure may be the free time activity that men are most likely to forego as structured time commitments increase. For younger men, men who were not gainfully employed, and men who spent less time at work, freedom from the structured time commitments associated with social role and work responsibilities may have been sufficient to increase time spent in passive leisure. These data imply that the availability of free time may be an important factor influencing men's unhealthy sedentary leisure lifestyles. These findings supported prior

evidence that strategies designed to increase men's structured time commitments via activities within the household or the community may serve a major role in reducing the time men spend in health damaging leisure behaviours (Bloomfield & Gunthorpe, 2004).

The descriptive data showed that men engaged in passive leisure because they had nothing else to do nearly 25% of the time. These results supported previous research that found that passive leisure was often associated with having nothing to do, not knowing what to do with spare time, and making time pass, especially among younger and unemployed men (Bloomfield & Gunthorpe, 2004; Donald & Havinghurst, 1959; Fryer & McKenna, 1987; Hepworth, 1980; Kay, 1989; Kilpatrick & Trew, 1985; Kubey & Csikszentmihalyi, 1990; Shaw et al., 1995; Winefield et al., 1992). These findings were consistent with the hypothesis of Kubey (1986) and Kubey and Csikszentmihalyi (1990) that many people may use passive leisure activities, such as watching television, to structure free time when they are unable to provide structure on their own. Thus, many Australian men may 'fill time' by watching television when they lack the resources to 'use' free time more effectively (Mulgan & Wilkinson, 1995).

Recently in Australia, concern has been raised about the erosion of reasonable working hours and the resultant reduction in time for family, personal leisure, and community based activities (Bittman & Rice, 2002; Charlesworth, Campbell, & Probert, 2002; Pocock, 2003). A common theme in the literature is that people in industrialised countries feel as though time is scarce and that the pace of life has sped up (Robinson & Godbey, 1996; 1999; Zuzanek & Mannell, 1998; Zuzanek & Smale, 1997). Despite the fact that free time has increased over the past several years, people report having less free time than they did five years earlier (Robinson & Godbey, 1999; Zuzanek & Smale, 1997). The need to further increase free time to improve the quality of people's lives is an underlying notion in the literature. The results of the current study imply that if time availability continues to predict increased time spent in passive leisure, then having more free time may not necessarily guarantee a leisure experience that leads to an improved quality of life (Neulinger, 1981; Shaw, 1984).

The significant inverse relationship between meaningful activity during free time and time spent in passive leisure was contrary to the hypothesis. These results suggest that reduced meaningful activity during free time was a stronger predictor of increased unstructured leisure time use than boredom during free time. The findings indicate that in addition to men with fewer social role and paid work time commitments, men who were less likely to sustain meaningful activity during free time spent more time in passive leisure activities such as watching television and videos, reading, resting, and doing nothing in particular. The results concurred with previous reports of a relationship between meaningful activity and a decrease in unstructured activity participation in unemployed people (Ball & Orford, 2002; Evans & Haworth, 1991; Haworth, 1986; Haworth & Evans, 1987; Kaufman, 1993), and show the applicability of that association during the leisure time of the general Australian male population.

These results may provide one answer to the question as to why some men lack the necessary resources to structure free time in health promoting ways. It may not be because free time was perceived as boring, but rather, a lack of meaningful and longer-term free time goals appeared to play a major and direct role in shaping men's leisure lifestyles. The present data indicated that the more meaningful free time activities were perceived, the less likely men would spend long periods of time in passive leisure, and add to a growing body of literature that suggests that the subjective experience of time may be grounded in objective reality (Zuzanek, 1998). Specifically, men who perceive leisure as lacking in meaning may behave accordingly - by engaging in meaningless leisure activities. There may also be a recursive effect. Increased time spent in passive leisure may, over time, negatively influence men's perceptions of the meaningfulness of their leisure time repertoire.

It is also possible that some men frequently choose to watch television *because* it is a meaningless and unstructured activity. Men may watch television because it is relaxing (Bower, 1973; Csikszentmihalyi & Kubey, 1981; Finucane & Horvath, 2000). Although this may very well be true for some people, a compensatory explanation for passive leisure appears insufficient in the face of the evidence that people with more free time spend more time in these types of activities. This, in turn, is associated with negative cognitive states and

poor health outcomes. The data were more consistent with the conclusion that men who watched television for lengthy periods of time may have done so to fill prolonged meaningless unstructured free time.

The significant inverse relationship between time spent in social activities and time spent in passive leisure was consistent with the pattern found by Robinson (1972; 1981) and Robinson and Godbey (1999), and provides evidence for the phenomenon in the Australian male population. These findings support the notion that television viewing may be a “substitute for a social life” (Rubenstein & Shaver, 1982, p. 85). However, in combination with the results that showed inverse relationships between time spent in passive leisure and meaningful activity during free time, the current study provides empirical evidence to suggest that men who spent more time in passive leisure may have lacked an otherwise *meaningful* social life. Thus, watching television may be a way for many men to spend free time in the absence of any alternative meaningful activity.

Watching television may be a popular time-filler for men because the activity may satisfy the human innate need for time structure (Kelvin, 1981; Zerubavel, 1981). Television has been found to provide entertainment, on-going information, and to facilitate conversation and social cohesion among family members. It may also provide companionship and a shared activity for people who live alone or spend time alone (Kubey, 1986; Winick, 1988). Television may be perceived as a significant other in the absence of a leisure time partner (Newton & Buck, 1985). Television was designed to maintain the focus of the viewer. In doing so, concentration on the self may be temporarily thwarted (Kubey, 1986). For some people, the characters and personalities on television may provide a parasocial involvement (Kubey, 1986; Perlman & Peplau, 1982), and longer-term serial dramas and soap operas may provide some viewers with a pseudo-meaning or purpose to their free time activities. Winick (1988) reported that television structured daily household routines and punctuated the days of the week. Thus, at the individual level, watching television may play a major role in ‘normalising’ everyday events to distract people from any negative thinking or unpleasant mood states (Bryant & Zillmann, 1984; Kubey, 1986; Zerubavel, 1981). At the collective level term, television may serve to temporally and spatially orient and cement people (Zerubavel, 1981).

The ability of television to structure time may be at the fundamental core of men's prolonged viewing and their resistance to increase their participation in housework. Committed time activities may be the only other set of home-based activity types that are as successful as television in structuring non-work time. Committed time activities such as domestic work and childcare have traditionally been viewed as 'women's work' (Delphy & Leonard, 1992). Household maintenance activities, traditionally viewed as 'men's work', are undemanding in contrast to the demanding nature of 'women's work' (Dempsey, 1988). Men rarely attempt the more elaborate tasks "such as renovating a kitchen or stripping down a car engine" that require the same level of commitment, time, and energy as domestic work (Dempsey, 1988, p.432). Thus, if being a man in patriarchal societies means to reject all that is feminine (Connell, 1995), then watching television may enable men to avoid doing 'feminine' tasks. It may provide men with something to do during free time when home maintenance tasks are finalised, and especially for married men, when wives are busy doing domestic work and caring for children (Horna, 1989; Schneider, 1972; Shaw, 1992; Zuzanek & Smale, 1999). This may also serve to subordinate women as a large proportion of domestic work performed by women is for men (Dempsey, 1990; Williams, 1981). Attributing reasons such as needing to relax or rest from work may be cognitive strategies that men use to reinforce their patriarchal beliefs, and consequently, to sustain the gendered division of labour. Thus, masculinity may be reconstructed around the use of television, whereby it has become the only masculine way to structure home-based free time in the absence of any meaningful alternatives.

Watching television may serve to reconstruct masculinity in other ways. Television programs exalt hegemonic masculinity via televised sports, Hollywood 'tough guy' villains and (super)heroes, as well as advertising, which shows male supremacy through violence, aggression, and the subordination and sexual objectification of women (Connell, 1995). The commodification of television may also be tied up with notions of masculinity. With the number of television sets in homes increasing and advancements in technology, notions of more, bigger, and better may equate with ideals of success, status, and competition.

The significant inverse relationship between meaningful activity during free time and time spent in passive leisure found in the present study refutes the self-regulation model of interest (Sansone & Smith, 2000). According to the model, the value of goals and goal

congruence would directly predict both interest and the motivation to initially perform an activity, but the experience of interest would determine persistence in a task over the longer term (Sansone & Smith, 2000). The current results showed that not only did goals directly predict increased participation in passive leisure activities, but also that lower levels of motivation to reach goals was the strongest predictor of persistence in those activities. These findings suggest that goals and interest may interact to influence behaviour. Specifically, interest may encourage persistence in a task or activity only when goals are high. The lack of a relationship between interest and activity when goals were low may be because of the superficial nature of men's free time goals. The strategies men may have used in an attempt to fill in time or to avoid 'feminine tasks' may have demanded little cognitive processing (Linnenbrink & Pintrich, 2000). Thus, the focus may not have been on the activity itself, and the ability to enhance interest by reframing or sufficiently increasing the meaningfulness of activities may have been constrained (Green-Demers et al., 1998; Linnenbrink & Pintrich, 2000; Sansone & Smith, 2000; Werner & Makela, 1998). Men may have also believed they had insufficient time for any longer-term commitments during free time. Having insufficient time was the main reason Australians gave for dropping out of sporting activities and for not participating in cultural activities (Australia Council, 1995; ABS, 1999b). However, research has found that perceptions of having insufficient free time are incongruous with what people tend to record in their time-use diaries (Robinson & Godbey, 1999).

It is interesting to note that the regression equations predicting time spent in passive leisure and time spent in social activities both produced large, but near or non-significant, negative regression coefficients between the dependent variables and loneliness during structured time. Therefore, even after controlling for the availability of free time, meaningful activity, loneliness, interest, and boredom during free time, spending more time in passive leisure and social activities may be associated with a reduction in loneliness during structured time. The negative relationship between loneliness and time spent in social activities supported previous research that lonely people tend to avoid social activities (Hawkley et al., 2003; Peplau & Perlman, 1982) and that increased time spent socialising with friends and neighbours may be sufficient to reduce loneliness for some men (Pinquart, 2003).

Previous researchers have reported that compared to non-lonely people, lonely people tend to spend more time in leisure activities such as watching television, playing board games,

reading, listening to music, or relaxing and being idle (Moore & Schultz, 1983; Perlman et al., 1978; Roland & Page, 2000; Rubenstein & Shaver, 1982; Tornstam, 1992). Therefore, the negative relationship between loneliness and passive leisure found in the present study was more consistent with the hypothesis that spending more time in passive leisure reduced loneliness than with the suggestion that increased loneliness reduced time spent in passive leisure. Nevertheless, it is possible that men in the current study who were lonely had a tendency to avoid passive leisure activities as well as social activities.

However, the near or non-significance of the relationships suggests that loneliness had limited importance in predicting time spent in social activities and passive leisure when significant differences between men on free time availability and meaningful activity during free time were accounted for. These results indicate that a reduction in loneliness may have only been significantly associated with an increase in the time spent in social activities and passive leisure for men who had fewer social roles, less structured time commitments, and reduced meaningful activity during free time. These data suggest that men who had the most meaningless unstructured free time at their disposal may be more likely than other men to spend more time in passive leisure and social activities to cope with loneliness.

10.6.3 Loneliness during structured time and loneliness during free time and active leisure

Contrary to the hypotheses, the results of the current study showed that loneliness during structured time and loneliness during free time both significantly and positively predicted time spent in active leisure. These findings indicate that men who were lonelier during free time and during structured time spent significantly more time in active leisure. These findings were inconsistent with previously reported associations between loneliness and passivity and lethargy (Perlman et al., 1978; Rubenstein & Shaver, 1982), fewer structured leisure activities (Perlman et al., 1978), and an increase in passive leisure activities (Moore & Schultz, 1983; Perlman et al., 1978; Rubenstein & Shaver, 1982; Tornstam, 1992).

The finding that increased loneliness during free time, but not reduced loneliness during free time, predicted increased time spent in active leisure suggests that lonelier men engaged in active leisure because of loneliness rather than as a means to reduce it. The coding strategy

of collapsing free time activities into active leisure, passive leisure, and social activities did conceal which specific activities comprised the largest proportion of active leisure. Previous research has indicated that Australian men spend more time on sport and physical exercise than on hobbies or other activities coded as active leisure (ABS, 1997c; Darcy & Veal, 1996; Veal & Lynch, 2001). Although some people reported engaging in physical exercise as a strategy for overcoming their loneliness (Rook & Peplau, 1982), the current results suggest that men's unrelenting feelings of loneliness may lead to an "overinvestment" (Kleiber, 1999, p. 28) in sport and physical exercise. The results were consistent with recent findings of a positive association between self-reported personal stress and physical exercise (Zuzanek & Mannell, 1998; Zuzanek et al., 1998). They add to an emerging body of literature that suggests that the emphasis on the health promotional aspects of leisure, particularly physical activity, is too narrow (Bird & Fremont, 1991; House et al., 1982; Zuzanek et al., 1998).

Causality cannot be inferred from cross-sectional data. It is possible that more time spent in active leisure led to an increase in loneliness. A large number of sport and exercise activities are conducted while alone, such as walking, running, and going to the gym. Thus, increased loneliness during structured time may have impelled men to engage in active leisure, but the solitary nature of the activities may have exacerbated loneliness during free time.

It has previously been suggested (Section 10.6.1) that younger men may engage more frequently in active leisure to reduce boredom during free time. However, the findings from this phase of the study showed that even with boredom controlled for, increased loneliness significantly and positively predicted increased time spent in active leisure. These data suggest that loneliness is the stronger predictor of time spent in active leisure, and therefore, may negate any positive effects that active leisure may have on reducing younger men's boredom. These results highlight some possible indirect negative effects of loneliness on the health of Australian men, and support the notion that physical activity may not be a sufficient condition for health (Eassom, 1991; McNaught-Davis, 1991). On the contrary, it may actually worsen health under certain circumstances, and these findings challenge current Australian Government policies that emphasise sport and physical activity in the reduction of sedentary behaviours and associated health problems (Australian Sports Commission, 2001; Bauman, Wright, & Brown, 2001).

The results of this study indicated that men's avoidance of, or their reluctance to, spend more time in housework and/or childcare activities might have negative consequences during free time. The data showed that men's use of leisure time may be strongly and directly associated with the availability of free time, and with negative affect, even after important sociodemographic factors were controlled. The major finding during this phase of the study was that men's participation in their dominant leisure time activities (passive leisure and social activities) might be largely determined by an inability to use excess free time in a structured and meaningful manner. The results indicated that passive leisure, in particular, might be a palliative for prolonged meaningless unstructured time. Even the more meaningful 'structured-like' active leisure pursuits may not have been health promoting, as they were strongly associated with loneliness. In fact, active leisure appeared to exacerbate loneliness rather than reduce it, and appeared to offset any benefits that active leisure may provide in the reduction of boredom during free time.

The results of the current study have indicated that spending more time in leisure may not guarantee a leisure experience for men. In the realm of men's free time, researchers may need to shift focus from the positive phenomenology of leisure to understanding the important structural, affective, and cognitive factors that appear to influence sedentary behaviour and offset the health benefits of active leisure. These results provide a basis for governments and communities to revise strategies that emphasise physical exercise as a solution to reducing sedentary behaviours and to implement policies that encourage the development and maintenance of longer-term free time projects such as community involvement and voluntary work. These types of activities are goal oriented, they promote activity, and facilitate opportunities for the establishment of meaningful relationships. Increasing men's participation in housework and childcare activities would also be beneficial to health by reducing their free time availability.

Changing social, demographic, and economic trends that affect time use patterns may influence trends in leisure, and subsequently, men's health. Time spent at work has declined over the last several decades and free time is increasing (Robinson & Godbey, 1999). People

in industrialised countries are living longer, they are marrying later, having fewer children, becoming parents later in life, and divorce rates have increased. Unemployment rates have also increased and home ownership is being delayed due to the increased cost of housing. All of these factors translate into increased unstructured time. Technological advancements dictate what is consumed in the leisure market, such as large wide-screened television, stereo surround systems, computer games, and DVD players. The future of men's health may be determined, largely, by the interplay of these factors. The future challenges for government bodies are to arrest the pace of this structural lag and ensure that men can absorb free time increases in meaningful ways.

CHAPTER 11

PHASE 4: THE OBJECTIVE AND SUBJECTIVE ASPECTS OF UNSTRUCTURED FREE TIME AND UNHEALTHY LIFESTYLE BEHAVIOURS

11.1 Aim

The aim of phase 4 was to examine the relationships between age, marital status, meaningful activity, loneliness, interest, and boredom during free time, boredom and loneliness during structured time, time spent in active leisure, passive leisure, and social activities, and unhealthy lifestyle behaviours, when known risk factors were controlled.

11.2 Hypotheses

It was hypothesised that:

1. Increased time spent in social activities would be associated with an increase in alcohol consumption in pubs, bars, and taverns.
2. Increased time spent in passive leisure would be associated with an increase in alcohol consumption while spending a quiet evening at home.
3. There would be no relationship between time spent in active leisure and alcohol consumption at pubs, bars, and taverns, or alcohol consumption while spending a quiet evening at home.
4. Increased boredom during free time would be associated with an increase in alcohol consumption in pubs, bars, and taverns and an increase in alcohol consumption while spending a quiet evening at home.
5. Marital status and age variations in boredom during free time would account for the relationships between age, marital status, and alcohol consumption in pubs, bars,

and taverns, and for the relationship between marital status and alcohol consumption while spending a quiet evening at home.

6. Increased time spent in passive leisure and increased time spent in social activities would be associated with an increase in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
7. Increased boredom during free time would be associated with an increase in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
8. Marital status and age variations in boredom during free time would account for age and marital status differences in total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
9. There would be no relationships between time spent in active leisure and total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication.
10. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and alcohol consumption at pubs, bars, and taverns, or alcohol consumption while spending a quiet night at home after the variance associated with boredom during free time was accounted for.
11. There would be no relationships between meaningful activity, loneliness, and interest during free time, or loneliness and boredom during structured time and total weekly alcohol consumption, weekly episodes of binge drinking, and weekly episodes of intoxication after the variance associated with boredom during free time was accounted for.

Five hierarchical multiple regression equations were run. The first series of two multiple regression equations predicted alcohol consumption at pubs, bars, and taverns, and alcohol consumption while spending a quiet evening at home. Each regression analysis proceeded in six steps. In the first step, marital status, age, education level, occupation status, and former and current smoker status were entered into the equation as the control variables. In the next step, time spent in active leisure, time spent in passive leisure, and time spent in social activities were entered into the equation as a set of predictors. Boredom during free time was entered in the next step. Loneliness during free time and interest during free time were entered next into the equation as a block. Meaningful activity during free time was then entered. Loneliness during structured time and boredom during structured time were entered as a separate block of predictors in the final step (Pedhazur, 1997). A significant R^2 at steps 2 and 3 with a significant unique association between the hypothesised variables in the direction predicted would support hypotheses 1, 2, and 4. Hypothesis 5 would be supported if the significant relationships between age, marital status, and the dependent variables became non-significant at step 3. A non-significant unique association between time spent in active leisure and the dependent variables would support hypothesis 3. Non-significant R^2 values at steps 4, 5, and 6 for each regression equation would support hypothesis 10.

The second series of three hierarchical regression equations respectively predicted total weekly alcohol consumption, binge drinking, and intoxication. Alcohol consumption at pubs, bars, and taverns, and while spending a quiet evening at home were included as control variables with marital status, age, occupation status, education level, and cigarette smoking status at the first step. The subsequent steps followed a similar procedure as that outlined in the paragraph above. A significant R^2 at steps 2 and 3 with significant unique associations between the hypothesised variables in the directions predicted would support hypotheses 6 and 7. Hypothesis 8 would be supported if the significant relationships between age, marital status, and the dependent variables become non-significant at step 3. A non-significant unique association between time spent in active leisure and each dependent variable would support hypothesis 9, and non-significant R^2 values at steps 4, 5, and 6 would support hypothesis 11.

The tests of the hypotheses are preceded by the descriptive data for alcohol and tobacco use. These data are presented for the sample, by marital status, and by age.

11.4 Results

11.4.1 Descriptive statistics

11.4.1.1 Alcohol use

The means and standard deviations for the total weekly grams of alcohol consumed, the weekly episodes of binge drinking, and the weekly episodes of intoxication are shown in Table 26 for the sample and by marital status, and in Table 27 for each age category. Table 26 shows that all men reported consuming alcohol at responsible levels of intake. On average, men engaged in binge drinking just over 1.5 times per week and they became intoxicated less than once a week. Relative to married men, unmarried men reported binge drinking twice as often per week and became intoxicated nearly four times as often per week.

Table 26
Means and Standard Deviations for Total Weekly Grams of Alcohol Consumed, Weekly Episodes of Binge Drinking and Weekly Episodes of Intoxication for the Sample and by Marital Status (Current Drinkers Only)

	Total Sample (n=167)		Married (n=78)		Unmarried (n=89)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Weekly grams of alcohol	178.26	233.14	150.95	179.49	202.18	270.37
Weekly binge drinking episodes	1.62	2.66	1.11	2.04	2.07	3.04
Weekly episodes of intoxication	0.77	1.45	0.32	0.93	1.17	1.70

Table 27 shows that, on average, the amount of alcohol consumed on a weekly basis and episodes of intoxication and binge drinking declined with age. However, weekly alcohol consumption and binge drinking increased among men aged between 36 to 45 years relative to other age groups.

Table 27
Means and Standard Deviations for Total Weekly Grams of Alcohol Consumed, Weekly Episodes of Binge Drinking, and Weekly Episodes of Intoxication for Each Age Group (Current Drinkers Only)

Age group	Weekly grams of alcohol consumed		Weekly episodes of binge drinking		Weekly episodes of intoxication	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
18 to 25 years (n=30)	187.30	135.90	1.84	2.24	1.48	1.96
26 to 35 years (n=44)	176.82	284.20	1.61	3.20	0.78	1.46
36 to 45 years (n=41)	232.83	281.81	2.35	2.61	0.86	1.24
46 to 55 years (n=40)	127.09	182.36	0.74	2.26	0.33	1.21
56 years and over (n=12)	125.02	164.52	1.58	2.41	0.19	0.45

11.4.1.2 Alcohol consumption in specific settings

The means and standard deviations for total weekly grams of alcohol consumed and the percentage of total alcohol consumed in each of the 14 specific settings for the sample and by marital status are shown in Table 28 and for each age category in Table 29.

Table 28 shows that on average, the highest proportion of men’s total alcohol consumption occurred while spending a quiet evening at home, followed by going to a bar, pub or tavern, and a barbeque, party, social gathering or wedding. Married men consumed a larger share of their total alcohol intake while having a quiet evening at home, at a barbeque, party, social gathering, or wedding, and while having friends or family visit. Unmarried men consumed a larger percentage of their total alcohol intake at a pub, bar or tavern, during quiet evenings at home, at a barbeque, party, social gathering or wedding, and at a restaurant for dinner. Table 29 shows that alcohol consumption at pubs, bars, and taverns was highest for men aged between 18 to 25 years, and then declined with age until age 56 years when alcohol consumption in public places slightly increased. Alcohol consumption at home was lowest for men aged between 18 to 35 years and then increased with age.

Table 28
Means and Standard Deviations for Total Weekly Grams of Alcohol Consumed and the Percentage of Total Alcohol Consumed in Each Setting for the Sample and by Marital Status (Current Drinkers Only)

	Total sample (n=167)			Married (n=78)			Unmarried (n=89)		
	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%
Quiet evening home	43.76	82.69	24.7	57.58	96.94	39.8	32.80	68.01	15.8
Quiet time home	5.05	23.47	2.9	7.65	28.74	5.3	2.90	17.91	1.4
Work function	4.35	12.48	2.5	4.14	13.70	2.9	4.53	11.55	2.2
Pub or tavern	34.90	63.68	19.7	7.90	16.76	5.5	58.82	78.81	28.4
Social gathering	25.77	46.47	14.5	19.88	38.03	13.7	30.63	52.17	14.8
Having people visit	15.21	29.09	8.6	17.37	33.17	12.0	13.51	25.53	6.5
Someone else's home	12.75	26.52	7.2	10.02	22.74	6.9	14.96	29.18	7.2
Restaurant dinner	15.53	47.82	8.7	5.08	9.76	3.5	25.12	64.27	12.2
Outdoor leisure	1.81	9.27	1.0	1.45	7.97	1.0	2.10	10.22	1.0
Sporting activity	0.37	2.31	0.2	0.47	3.18	0.3	0.29	1.32	0.1
Club or meeting	2.68	13.63	1.5	1.40	6.64	1.0	3.69	17.27	1.8
Restaurant lunch	5.06	23.91	2.9	2.28	6.63	1.6	7.26	31.40	3.5
Concert or festival	2.14	13.25	1.2	0.53	3.17	0.4	3.46	17.56	1.7
Football	7.89	24.74	4.4	9.01	32.54	6.2	7.08	17.09	3.4

Table 29
Means and Standard Deviations for Total Weekly Grams of Alcohol Consumed and the Percentage of Total Alcohol Consumed in Each Setting by Age Category (Current Drinkers Only)

Age category	18 to 25 (n=30)			26 to 35 (n=44)			36 to 45 (n=41)			46 to 55 (n=40)			56 and over (n=12)		
Setting	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%
Quiet evening home	31.42	67.91	18.2	25.92	76.64	14.6	56.62	81.32	24.1	43.04	77.02	35.9	91.98	129.30	63.5
Quiet time at home	2.21	11.46	1.3	40.61	23.71	2.3	9.61	34.71	4.1	2.49	10.74	2.1	7.52	26.04	5.2
Work function	7.98	12.82	4.6	1.19	2.60	0.7	5.91	14.23	2.5	4.36	17.53	3.7	1.01	3.22	0.7
Pub or tavern	55.87	72.31	32.4	47.87	66.39	26.9	33.69	77.48	14.3	5.58	13.29	4.7	23.87	38.23	16.5
Social gathering	29.48	39.37	17.1	22.32	46.58	12.4	43.27	64.79	18.4	11.92	20.99	9.9	7.11	9.39	4.9
Having people visit	7.52	14.22	4.4	15.28	29.64	8.6	19.55	26.45	8.3	19.87	43.57	16.6	6.06	12.47	4.1
Someone else's home	20.02	34.45	11.6	12.10	20.02	6.8	11.79	28.64	5.0	12.63	29.16	10.5	3.49	6.00	2.4
Restaurant dinner	7.33	18.02	4.2	21.91	42.78	12.3	23.12	78.62	9.8	8.82	15.43	7.3	3.37	9.14	2.3
Outdoor leisure	0.00	0.00	0.0	1.88	8.29	1.1	2.63	12.34	1.1	2.90	11.81	2.4	0.46	1.51	0.3
Sporting activity	0.00	0.00	0.0	0.00	0.00	0.0	0.45	1.57	0.2	1.11	4.64	0.9	0.00	0.00	0.0
Club or meeting	3.47	8.21	2.0	3.82	23.67	2.1	1.52	4.76	0.6	3.04	9.53	2.5	0.00	0.00	0.0
Restaurant lunch	0.59	2.11	0.3	7.52	36.22	4.2	9.33	28.43	4.0	2.27	6.48	1.9	0.20	0.71	0.1
Concert or festival	3.02	11.87	1.7	5.37	24.43	3.0	0.44	1.31	0.2	0.79	4.39	0.7	0.00	0.00	0.0
Football	3.66	6.76	2.2	8.92	19.14	5.0	17.29	41.92	7.4	1.11	4.12	0.9	0.00	0.00	0.0

11.4.1.3 Weekly tobacco use

The means and standard deviations for the total weekly number of cigarettes smoked are shown in Table 30 for the sample, by marital status, and for each age category. Men smoked an average of nearly 20 cigarettes per day. Married men smoked just over 2.8 times the number of cigarettes that unmarried men smoked per week. The quantity of cigarettes smoked on a weekly basis increased with age until a decline was observed at age 56 and over.

Table 30
Means and Standard Deviations for Total Weekly Number of Cigarettes Smoked for the Sample, by Marital Status, and for Each Age Category (Current Smokers Only)

	Mean	S.D.
Total sample (n=40)	139.47	314.06
Married (n=14)	240.60	507.91
Unmarried (n=26)	85.01	104.47
18 to 25 years (n=6)	52.96	126.06
26 to 35 years (n=10)	68.89	106.42
36 to 45 years (n=9)	126.22	85.35
46 to 55 years (n=12)	269.92	546.71
56 years and over (n=3)	65.67	34.93

11.4.1.4 Tobacco use in specific settings

The means and standard deviations for the total weekly number of cigarettes smoked and the percentage of the total number of cigarettes smoked in each of the 14 specific settings for the sample and by marital status are shown in Table 31 and for each age category in Table 32. Table 31 shows that the highest percentage of men’s total tobacco use occurred during a quiet evening at home or quiet time at home during the day. The proportion of total tobacco use that occurred in pubs, bars, and taverns was relatively low. Tobacco use in each of the remaining 11 settings was also low. Married men smoked a greater share of their overall tobacco use during quiet evenings at home and during quiet times at home during the day. Unmarried men smoked more tobacco during quiet evenings at home and at a pub, bar, or tavern than in other settings. Table 32 shows that tobacco use at home increased with age. Older men consumed a larger proportion of their total tobacco use at home, whereas younger men tended to smoke more during social activities and while at a pub, bar, or tavern.

Table 31
Means and Standard Deviations for Weekly Number of Cigarettes Smoked and the Percentage of Total Number of Cigarettes Smoked in Each Setting for the Sample and by Marital Status (Current Smokers Only)

	Total sample (n=40)			Married (n=14)			Unmarried (n=26)		
	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%
Quiet evening home	62.07	156.21	41.9	134.96	264.70	48.4	28.43	39.49	32.0
Quiet time home	44.41	156.89	30.0	124.00	269.15	44.4	7.67	10.45	8.7
Work function	1.89	8.44	1.3	1.15	2.19	0.4	2.25	10.28	2.6
Pub or tavern	11.24	15.96	7.6	5.96	6.04	2.1	13.88	18.66	15.6
Social gathering	5.55	14.28	3.8	1.62	2.53	0.6	7.52	17.17	8.4
Having people visit	5.17	10.03	3.5	3.77	4.51	1.4	5.88	11.90	6.6
Someone else's home	4.84	7.80	3.2	4.85	4.93	1.7	4.84	8.99	5.4
Restaurant dinner	4.36	8.82	3.0	0.34	0.61	0.1	6.37	10.26	7.2
Outdoor leisure	1.90	5.44	1.3	0.00	0.00	0.0	2.86	6.50	3.3
Sporting activity	0.27	1.68	0.2	0.00	0.00	0.0	0.40	2.06	0.5
Club or meeting	0.85	3.37	0.5	0.00	0.00	0.0	1.27	4.08	1.5
Restaurant lunch	1.89	4.03	1.3	1.24	2.62	0.5	2.25	4.62	2.6
Concert or festival	2.03	8.85	1.3	0.00	0.00	0.0	3.04	10.76	3.4
Football	1.71	4.54	1.1	1.15	2.19	0.4	1.98	5.37	2.2

Table 32
Means and Standard Deviations for Weekly Number of Cigarettes Smoked and the Percentage of Total Number of Cigarettes Smoked in Each Setting by Age Category (Current Smokers Only)

Age category	18 to 25 (n=6)			26 to 35 (n=10)			36 to 45 (n=9)			46 to 55 (n=12)			56 and over (n=3)		
	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%	Mean	S.D.	%
Setting															
Quiet evening home	8.08	11.58	11.8	15.85	26.77	23.0	59.25	49.07	47.0	149.85	290.16	46.6	40.00	25.98	60.9
Quiet time at home	5.00	12.25	7.3	6.20	7.36	9.0	12.56	9.53	9.9	145.50	292.42	45.3	9.17	9.38	14.0
Work function	9.75	20.99	14.3	1.50	2.41	2.2	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0
Pub or tavern	8.50	12.43	12.4	7.25	9.05	10.5	23.92	26.64	18.9	4.68	5.51	1.5	16.00	0.00	24.3
Social gathering	13.83	28.59	20.2	5.55	7.35	8.1	7.78	17.16	6.2	0.73	1.19	0.2	0.00	0.00	0.0
Having people visit	2.00	3.45	2.9	6.30	8.81	9.1	1.36	3.99	1.1	10.32	15.39	3.2	0.33	0.29	0.5
Someone else's home	2.58	3.26	3.8	8.75	8.23	12.7	6.03	11.98	4.8	2.82	4.41	0.9	0.17	0.14	0.3
Restaurant dinner	0.83	0.98	1.2	4.99	12.33	7.2	9.33	10.20	7.4	2.82	6.03	0.9	0.00	0.00	0.0
Outdoor leisure	0.88	2.14	1.3	3.15	9.45	4.6	1.78	3.67	1.4	1.95	3.99	0.6	0.00	0.00	0.0
Sporting activity	1.75	4.29	2.6	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0
Club or meeting	5.50	7.45	8.1	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0
Restaurant lunch	1.25	2.50	1.9	1.70	4.72	2.5	2.44	5.46	1.9	2.37	3.29	0.7	0.00	0.00	0.0
Concert or festival	8.33	20.41	12.2	2.90	7.81	4.2	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0
Football	0.00	0.00	0.0	4.75	7.68	6.9	1.78	3.67	1.4	0.27	0.61	0.1	0.00	0.00	0.0

11.4.2 Tests of hypotheses

11.4.2.1 The objective and subjective aspects of free time and alcohol consumption in pubs, bars, and taverns

Table 33 shows that the control variables significantly predicted alcohol consumption in pubs, bars, and taverns (R^2 change = 0.24, $F(6,162) = 8.51$. $p=.0001$). Only age ($p=.001$) and current smoking status ($p=.0001$) uniquely and significantly predicted the dependent variable. Marital status neared significance ($p=.01$).

Table 33
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men's Free Time on Alcohol Consumption at Pubs, Bars, and Taverns with Marital Status, Age, Occupation Status, Education, and Smoking Status Controlled

Step	Predictor	Beta	FINAL SUMMARY				STEP SUMMARY	
			r	sr	pr	Tol	R ² ch	F ch
1	Age	-.20†	-.33	-.15	-.19	.60	0.24	8.51***
	Marital status	-.22†	-.33	-.17	-.21	.57		
	Occupation status	.10	.08	.09	.11	.75		
	Education	-.08	-.02	-.06	-.08	.66		
	Former smoker	.16†	-.05	.14	.18	.78		
	Current smoker	.28***	.25	.24	.29	.76		
2	Active leisure	-.03	.00	-.03	-.04	.81	0.03	1.82
	Passive leisure	.17†	.17	.14	.18	.72		
	Social activities	.05	.11	.04	.05	.83		
3	Boredom free time	.14	.27	.09	.11	.42	0.03	7.02*
4	Loneliness free time	-.07	.20	-.04	-.05	.40	0.02	1.77
	Interest free time	.18†	.01	.14	.18	.60		
5	Meaning free time	-.11	-.19	-.08	-.11	.65	0.01	1.49
6	Boredom structured time	.14	.26	.11	.14	.61	0.05	6.29*
	Loneliness structured time	.22†	.21	.14	.17	.39		

Multiple R 0.61
R² 0.37
Adjusted R² 0.31
F (15,153) 5.99***

*** $p< .001$, * $p< .009$, † $p< .05$

At step 2, the variables representing time spent in active leisure, time spent in passive leisure, and time spent in social activities did not increase the prediction of the dependent variable (R^2 change = 0.03, $F(3,159) = 1.82$, $p=.15$). At step 3, the inclusion of boredom during free time accounted for a significant proportion of the variance in the dependent variable (R^2 change = 0.03, $F(1,158) = 7.02$, $p=.009$). At this step, the previous significant relationship between age and the dependent variable became non-significant ($p=.02$). At steps 4 and 5, none of the sets of independent variables significantly improved the prediction of the dependent variable, although the relationship between boredom during free time and the dependent variable became weaker and non-significant at the conservative error rate at each step (step 4, $p=.01$; step 5, $p=.03$). The inclusion of boredom and loneliness during structured time at the last step produced a significant R^2 (R^2 change = 0.05, $F(2,153) = 6.29$, $p=.002$). The relationship between loneliness during structured time and the dependent variable was closer to significance ($t(2,153) = 2.10$, $p=.04$) than the relationship between boredom during structured time and the dependent variable ($p=.09$). At the final step, the relationship between boredom during free time and the dependent variable became non-significant at .05 ($p=.17$).

11.4.2.2 The objective and subjective aspects of free time and alcohol consumption while spending a quiet evening at home

Table 34 shows that the set of control variables significantly predicted the dependent variable (R^2 change = 0.17, $F(6,171) = 5.76$, $p=.0001$). Former smoking status ($p=.009$) and current smoking status ($p=.003$) were the only two control variables to uniquely and significantly predict alcohol consumption while spending a quiet evening at home after they had all been adjusted for each other. The relationship between age and the dependent variable neared significance ($p=.03$). At steps 2, 3, 4, and 5, none of the sets of predictor variables accounted for any significant proportion of the variance associated with alcohol consumption while spending a quiet evening at home. However, with the inclusion of boredom during free time at step 3, the relationship between age and the dependent variable became significant ($p=.008$). At the final step, the inclusion of boredom during structured time and loneliness during structured time significantly increased the prediction of the dependent variable (R^2 change = 0.06, $F(2,162) = 6.60$, $p=.002$). Increased loneliness during structured time

significantly and uniquely predicted an increase in alcohol consumption while spending a quiet evening at home ($t(2,162) = 3.49, p=.001$). At this step, the relationship between former smoking status and the dependent variable became non-significant ($p=.01$).

Table 34
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men's Free Time on Alcohol Consumption While Spending a Quiet Evening at Home with Marital Status, Age, Occupation Status, Education, and Smoking Status Controlled

Step	Predictor	Beta	FINAL SUMMARY				STEP SUMMARY	
			r	sr	pr	Tol	R ² ch	F ch
1	Age	.22†	.27	.18	.20	.62	0.17	5.76***
	Marital status	.02	.18	.02	.02	.60		
	Occupation status	.14	.13	.12	.14	.79		
	Education	.14	.07	.12	.13	.67		
	Former smoker	.19†	.17	.17	.19	.81		
	Current smoker	.27*	.24	.23	.26	.76		
2	Active leisure	.03	-.01	.03	.03	.82	0.03	1.75
	Passive leisure	.07	.09	.06	.07	.74		
	Social activities	-.07	-.18	-.07	-.08	.85		
3	Boredom free time	.12	-.03	.08	.09	.42	0.01	1.91
4	Loneliness free time	-.19	.01	-.11	-.13	.38	0.01	1.11
	Interest free time	.14	.10	.11	.12	.60		
5	Meaning free time	-.07	-.00	-.06	-.07	.66	0.00	0.21
6	Boredom structured time	-.07	.05	-.06	-.07	.60	0.06	6.60*
	Loneliness structured time	.39*	.17	.23	.27	.35		
Multiple R		0.52						
R ²		0.27						
Adjusted R ²		0.21						
F (15,162)		4.06***						

*** $p < .001$, * $p < .009$, † $p < .05$

11.4.2.3 The objective and subjective aspects of free time and total weekly grams of alcohol consumed

Table 35 shows that the control variables were significantly associated with total weekly grams of alcohol consumed (R^2 change = 0.54, $F(8,169) = 24.92, p=.0001$). When all the control variables had been adjusted for each other, only occupation status ($p=.0001$), and

alcohol consumption at home ($p=.0001$) and in pubs, bars, and taverns ($p=.0001$) were uniquely and significantly associated with the dependent variable. Marital status ($p=.03$) and education ($p=.05$) neared significance. In subsequent steps, after adjustment for the control variables, none of the sets of predictor variables significantly increased the prediction of the dependent variable. However, at step 2, the relationship between marital status and total weekly grams of alcohol consumed became stronger and significant ($t(3,166) = 2.63, p=.009$).

Table 35
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men’s Free Time on Total Weekly Alcohol Consumption with Marital Status, Age, Occupation Status, Education, Smoking Status, and Alcohol Consumption in Two Venues Controlled

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.11	-.02	-.08	-.12	.56	0.54	24.92***
	Marital status	.22*	.01	.17	.25	.56		
	Occupation status	-.21*	-.04	-.18	-.27	.76		
	Education	-.04	-.01	-.03	-.05	.65		
	Alcohol at home	.49***	.56	.40	.52	.67		
	Alcohol in pubs, bars	.50***	.54	.39	.52	.63		
	Former smoker	-.03	.08	-.02	-.04	.77		
	Current smoker	.04	.19	.03	.05	.68		
2	Active leisure	.06	.08	.05	.08	.82	0.01	1.66
	Passive leisure	-.04	.12	-.03	-.05	.71		
	Social activities	.12†	.05	.11	.17	.83		
3	Boredom free time	-.08	.05	-.05	-.08	.43	0.00	0.27
4	Loneliness free time	-.01	.09	-.00	-.01	.39	0.01	1.49
	Interest free time	-.08	.01	-.06	-.09	.59		
5	Meaning free time	-.09	-.09	-.07	-.11	.66	0.00	1.09
6	Boredom structured time	-.16†	.03	-.12	-.18	.60	0.02	2.78
	Loneliness structured time	.10	.19	.06	.09	.34		
Multiple R		0.76						
R ²		0.58						
Adjusted R ²		0.54						
F (17,160)		13.04***						

*** $p < .001$, * $p < .009$, † $p < .05$

11.4.2.4 The objective and subjective aspects of free time and weekly episodes of binge drinking

Table 36 shows that the eight control variables significantly predicted weekly episodes of binge drinking (R^2 change = 0.51, $F(8,168) = 21.62$, $p=.0001$). Alcohol consumption at pubs, bars, and taverns ($p=.0001$), and alcohol consumption while spending a quiet night at home ($p=.0001$) were the only control variables to uniquely and significantly predict the dependent variable. Other variables that neared significance were age ($p=.046$), former smoker ($p=.02$) and current smoker ($p=.02$). In subsequent steps, none of the sets of predictor variables significantly increased the prediction of weekly episodes of binge drinking after the control variables had been included. However, at step 2, the unique relationship between decreased time spent in social activities and a greater number of episodes of binge drinking per week neared significance ($p=.02$), and the near significant relationship between age and weekly episodes of binge drinking became weaker ($p=.06$). The near significant relationship between current smoker and weekly episodes of binge drinking became stronger and significant ($t(3,165) = 2.82$, $p=.005$).

Table 36 shows that the partial correlation coefficient between time spent in social activities and weekly episodes of binge drinking was substantially greater than its zero-order correlation. These effects indicated the presence of a suppressor variable (Cohen & Cohen, 1983; Howell, 2002; Pedhazur, 1997; Tabachnick & Fidell, 2001). A suppressor variable is an independent variable that increases the predictive ability of other independent variables by the removal of irrelevant variance (Tabachnick & Fidell, 2001). Table 36 shows that time spent in passive leisure had a positive zero-order correlation with the dependent variable, but a negative and smaller partial correlation. The resultant change to the size and direction of the coefficient between the dependent variable and time spent in passive leisure indicated that time spent in social activities acted as a negative suppressor of time spent in passive leisure (Tabachnick & Fidell, 2001). Therefore, after time spent in passive leisure and time spent in social activities were adjusted for each other, the variance associated with time spent in passive leisure was removed, and the predictive ability of time spent in social activities was enhanced. More specifically, less time spent in social activities predicted a greater number of episodes of binge drinking per week *because* of increased time spent in passive leisure (Tabachnick & Fidell, 2001).

Table 36
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men’s Free Time on Weekly Binge Drinking Episodes with Marital Status, Age, Occupation Status, Education, Smoking Status and Alcohol Consumption in Two Venues Controlled

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.12	-.13	-.09	-.13	.57	0.51	21.62***
	Marital status	-.01	-.11	.00	-.00	.57		
	Occupation status	-.03	.08	-.03	-.04	.77		
	Education	-.00	.05	-.00	-.01	.65		
	Alcohol at home	.34***	.52	.27	.37	.64		
	Alcohol in pubs, bars	.41***	.57	.33	.44	.64		
	Former smoker	.15†	.12	.13	.19	.78		
	Current smoker	.20*	.29	.17	.24	.68		
2	Active leisure	.09	.06	.08	.12	.82	0.02	2.53
	Passive leisure	-.00	.14	-.00	-.00	.71		
	Social activities	-.13†	-.14	-.12	-.17	.84		
3	Boredom free time	.03	.14	.02	.03	.40	0.01	1.68
4	Loneliness free time	-.06	.12	-.04	-.06	.38	0.01	1.23
	Interest free time	-.08	-.05	-.07	-.10	.59		
5	Meaning free time	-.04	-.10	-.03	-.05	.64	0.00	0.06
6	Boredom structured time	-.09	.09	-.07	-.10	.60	0.01	1.54
	Loneliness structured time	.15	.23	.09	.13	.35		
Multiple R		0.74						
R ²		0.55						
Adjusted R ²		0.50						
F (17,159)		11.41***						

*** *p*< .001, **p*< .009, †*p*< .05

11.4.2.5 The objective and subjective aspects of free time and weekly episodes of intoxication

Table 37 shows that marital status, age, occupation status, education, smoking status, and alcohol consumption at home and at pubs, bars and taverns significantly predicted weekly episodes of intoxication (*R*² change = 0.39, *F*(8,165) = 13.19, *p*=.0001). The only control variables to uniquely and significantly predict the dependent variable were former smoker (*p*=.003) and alcohol consumption in pubs, bars, and taverns (*p*=.0001). Two other variables neared significance: age (*p*=.02) and alcohol consumption while spending a quiet night at

home ($p=.02$). At step 2, with the control variables adjusted for, a significant increment in the proportion of variance in the dependent variable was shown with the inclusion of the set of variables representing the time men spent in leisure activities (R^2 change = 0.06, $F(3,162) = 5.78$, $p=.001$). An increase in time spent in active leisure was significantly and uniquely associated with an increase in episodes of intoxication per week ($t(3,162) = 3.83$, $p=.0001$). At this step, the previously near significant relationship between alcohol consumption at home and weekly episodes of intoxication became weaker ($p=.08$).

Table 37
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men's Free Time on Weekly Episodes of Intoxication with Marital Status, Age, Occupation Status, Education, Smoking Status, and Alcohol Consumption in Two Venues Controlled

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	-.13	-.27	-.10	-.14	.58	0.39	13.19***
	Marital status	-.08	-.28	-.06	-.08	.57		
	Occupation status	-.06	.01	-.05	-.07	.77		
	Education	.03	-.01	.03	.04	.65		
	Alcohol at home	.05	.22	.04	.06	.69		
	Alcohol in pubs, bars	.37***	.55	.29	.38	.61		
	Former smoker	.22*	.14	.20	.27	.79		
	Current smoker	.24*	.15	.20	.27	.68		
2	Active leisure	.21*	.26	.19	.26	.80	0.06	5.78*
	Passive leisure	-.09	.06	-.07	-.10	.72		
	Social activities	-.05	.01	-.05	-.07	.84		
3	Boredom free time	.21†	.27	.14	.20	.42	0.03	8.31*
4	Loneliness free time	-.17	.23	-.11	-.15	.39	0.00	0.48
	Interest free time	.10	-.02	.08	.11	.56		
5	Meaning free time	-.12	-.15	-.09	-.13	.64	0.00	1.37
6	Boredom structured time	-.12	.21	-.09	-.13	.53	0.04	5.99*
	Loneliness structured time	.34*	.38	.19	.27	.32		
Multiple R		0.72						
R ²		0.52						
Adjusted R ²		0.47						
F (17,156)		9.96***						

*** $p<.001$, * $p<.009$, † $p<.05$

At the next step, boredom during free time significantly predicted the dependent variable (R^2 change = 0.03, $F(1,161) = 8.31$, $p=.004$). At this step, the previously near significant

relationship between age and weekly episodes of intoxication became weaker ($p=.09$), and the previously non-significant relationship between current smoking status and weekly episodes of intoxication became significant ($t(1,161) = 2.96, p=.004$). At step 4, the inclusion of loneliness and interest during free time did not add to the prediction of the dependent variable (R^2 change = 0.00, $F(2,159) = 0.48, p=.62$), nor did the inclusion of meaningful activity during free time (R^2 change = 0.00, $F(1,158) = 1.37, p=.24$). The inclusion of boredom and loneliness during structured time significantly increased the prediction of weekly episodes of intoxication (R^2 change = 0.04, $F(2,156) = 5.99, p=.003$). Increased loneliness during structured time uniquely and significantly predicted an increase in the number of episodes of intoxication per week ($t(2,156) = 3.45, p=.001$).

11.5 Summary of main findings

1. An increase in alcohol consumption in pubs, bars, and taverns was significantly associated with younger age, current smoker status, and an increase in boredom during free time and an increase in loneliness during structured time.
2. An increase in boredom during free time accounted for the significant relationship between younger age and an increase in alcohol consumption in pubs, bars, and taverns.
3. An increase in alcohol consumption while spending a quiet night at home was significantly associated with being a current or former smoker, older age, and an increase in loneliness during structured time.
4. An increase in boredom during free time accounted for the significant relationship between older age and an increase in alcohol consumption while spending a quiet night at home.
5. The significant relationship between former smoking and an increase in alcohol consumption while spending a quiet night at home was accounted for by an increase in loneliness during structured time.

6. Married men who spent more time in social activities, men who consumed a larger proportion of their total alcohol consumption in bars, pubs, and taverns, and while spending a quiet evening at home, and men who were students, unemployed, or retired consumed a significantly greater amount of alcohol on a weekly basis.
7. An increase in the number of episodes of binge drinking was significantly associated with current smoking status and consuming a larger proportion of total alcohol consumption in pubs, bars, and taverns, or while spending a quiet evening at home.
8. Current smokers who spent significantly more time on passive leisure engaged in significantly more episodes of binge drinking per week.
9. An increase in the number of episodes of intoxication per week was significantly associated with being a current or former cigarette smoker, consuming a larger proportion of total alcohol consumption in pubs, bars, or taverns, spending more time in active leisure, an increase in boredom during free time, and an increase in loneliness during structured time.
10. The significant relationship between current smoking status and an increase in episodes of intoxication per week was accounted for by an increase in boredom during free time.

11.6 Discussion

11.6.1 Time spent in leisure activities and alcohol consumption in pubs, bars, or taverns, and while spending a quiet evening at home

Contrary to the hypotheses, spending more time in social activities was not significantly associated with consuming more alcohol at pubs, bars, or taverns. These results were inconsistent with the notion that increased time spent socialising with friends facilitated alcohol consumption in public drinking venues (Okraoku, 1998; Single, 1985). However, Okraoku's (1998) measure of sociability was the frequency of spending an evening with friends who lived outside the neighbourhood. The results of the current study showed a near significant positive relationship between time spent in passive leisure and alcohol

consumption while attending a pub, bar, or tavern. Therefore, men who spent more time in passive leisure may have consumed a greater amount of alcohol in public places. Spending time with friends may also reflect spending time with friends in passive leisure, such as television viewing. The coding strategy used in the current study masked the sociable nature of specific activities, and hence concealed whether boredom during free time combined with spending time in the company of friends in passive leisure to influence alcohol consumption in pubs, bars, and taverns. There may be more dimensions to the experience of free time than were explored in the current study. Future time-use research may need to discriminate between passive social activities and active social activities to account for any differences in the social context of free time activities.

Also contrary to the hypothesis, increased time spent in passive leisure did not significantly predict an increase in alcohol consumption while spending a quiet evening at home. These findings were inconsistent with previous reports of an association between alcohol consumption and television viewing and other passive and home-based leisure activities (Bloomfield & Gunthorpe, 2004; Iso-Ahola & Hayllar, 1994; Kubey & Csikszentmihalyi, 1990; Tucker, 1985). Including all sedentary leisure activities in the one coding category of passive leisure in the current study may have obscured any direct associations between drinking alcohol at home and time spent in specific activities such as watching television or 'doing nothing in particular'. Moreover, time spent in passive leisure included participation in activities of that nature during the daytime as well as during the evening, whereas the alcohol consumption measure tapped only into drinking during quiet evenings at home. Nevertheless, the data suggests that men who reported consuming the largest proportion of alcohol while spending a quiet evening at home did not have a more passive leisure lifestyle overall relative to other drinkers and to men who consumed alcohol at public drinking venues. On the contrary, a sedentary leisure lifestyle appeared to be more prevalent among men who attended pubs, bars, and taverns to consume alcohol. These results indicate that the time Australian men spend in passive leisure may be a stronger predictor of pub, bar, and tavern use than the frequency with which they socialise with other people.

11.6.2 Boredom during free time and alcohol consumption in pubs, bars, and taverns, and while spending a quiet evening at home

In support of the hypothesis, when the impact of known demographic and behavioural factors were controlled, an increase in boredom during free time was significantly associated with an increase in alcohol consumption in pubs, bars, and taverns. Also consistent with the hypotheses, increased boredom during free time accounted for the relationships between younger age and an increase in alcohol consumption in pubs, bars, and taverns, and the relationship between older age and increased alcohol intake while spending a quiet evening at home. However, boredom during free time did not account for the relationships between marital status and alcohol consumption in pubs, bars, and taverns and while spending a quiet night at home. Furthermore, contrary to expectations, loneliness during structured time was significantly related to an increase in alcohol consumption in pubs, bars, and taverns and while spending a quiet night at home.

The present study sought to build on prior research in relation to the functions that public places perform for young and single male drinkers in preference to drinking alcohol at home (Holyfield et al., 1995; Kunz & Graham, 1996; Single & Wortley, 1993). Several scholars suggested that people's decisions to consume alcohol in pubs, bars, and taverns, or at home, may be related to loneliness (Gordon, 1976; Schonfeld et al., 1995; Single, 1985; Tornstam, 1992). Other research showed that unhealthy lifestyle behaviours were associated with leisure boredom in adolescents and students (Caldwell & Smith, 1994; Gordon & Caltabiano, 1996; Iso-Ahola & Crowley, 1991; Orcutt, 1984; Smith & Caldwell, 1989). Among adults, an increase in alcohol consumption has been associated with having nothing to do during free time and not knowing what to do with spare time (Bloomfield & Gunthorpe, 2004; McHugh et al., 1979).

The current study attempted to integrate this knowledge by testing the relationship between boredom during free time and alcohol consumption at home and at public drinking venues in the general adult male population. The results indicated that men who were lonely during structured time and bored during free time were more likely to consume larger amounts of alcohol in a variety of social contexts. The factor that appeared to determine the venue for on-going alcohol consumption was age. Thus, younger lonely men who were bored during

free time consumed the largest proportion of their total alcohol intake at public drinking venues, and older lonely men who were bored during free time consumed the most alcohol while spending a quiet evening at home.

An important finding from the current study was that total drinking in a variety of settings was more strongly related to the emotional quality of men's free time than the actual use of it. The results indicate that men may derive instrumental benefits (Kleiber & Richards, 1985; Martin, Blum, & Roman, 1992) from alcohol consumption itself rather than from the leisure contexts of drinking. Thus, lonely and bored men may have a need to drink alcohol across a variety of leisure settings during free time regardless of the time spent interacting with friends, or the time spent in other free time activities. These findings suggest that alcohol use may be a separate leisure activity choice (Iso-Ahola & Crowley, 1991; Simpura, 1985). In light of these results, time-use researchers may need to revise the exclusion of alcohol consumption as a leisure activity and include it as part of people's free time patterns (Kunz & Graham, 1996).

If leisure boredom is the subjective perception that the actual leisure experiences are insufficient to satisfy desired levels of arousal (Iso-Ahola & Weissinger, 1987) then people would be motivated to seek more exciting behavioural stimuli to reduce boredom (Weissinger et al., 1992). Thus, for Australian men, the consumption of alcohol appeared to be the behaviour that was instigated to achieve optimal arousal when free time activities failed to do so. Although the results were deemed non-significant, the final regression equations produced large positive correlation coefficients between interest during free time and alcohol consumption at home and at public drinking venues, and a large negative correlation coefficient between loneliness during free time and alcohol consumption at home. These results suggest that men who were bored during free time may have neared optimal arousal in leisure by increasing interest and reducing loneliness during free time through the heavy use of alcohol in a variety of settings. In addition, the fact that boredom during free time significantly predicted alcohol consumption after time spent in leisure activities was accounted for, suggests that men who consumed larger amounts of alcohol in a variety of settings may be those who were unable to achieve optimal arousal in *any* leisure activities. This is understandable given that active leisure may have exacerbated feelings of loneliness, and social activities appeared to be substitutes for meaningless passive leisure

activities. Thus, alcohol consumption may have been an alternative optimally arousing leisure activity if other free time behaviours were unsuccessful in sustaining meaningful activity and interest, and in reducing loneliness.

Explanations for the associations between boredom and alcohol consumption focus on the personalities of substance abusers, emphasising their low tolerance for repetition, monotony, and boring people, and their tendency towards sensation seeking or risk taking behaviour (Zuckerman, 1979). However, the near significant positive relationship between alcohol consumption at pubs, bars, and taverns and time spent in passive leisure suggests that bored men who consumed more alcohol at public drinking places were not particularly active during leisure time. On the contrary, these men may have unsuccessfully attempted to achieve optimal arousal during leisure by spending more of their free time in passive activities such as watching television, reading, and other sedentary behaviours. These findings suggest that men who were bored during free time may actually have had a high tolerance for repetition and monotony and had leisure lifestyles that were uncharacteristic of the active seeking of variety, stimulation, or sensation.

An alternative explanation is that bored men may have recourse to consume alcohol in the last resort. As previously noted, in Australia and other patriarchal societies, alcohol consumption constructs and reconstructs masculinity (Broom et al., 1992; Kirkby, 2003; Wedgwood, 1997; West, 2001; White, 1997). If bored and lonely men craved stimulation and respite from loneliness, but had no means to increase arousal or reduce loneliness during the traditional manly leisure time activities, then they may have felt that there were few meaningful alternative masculine ways to structure time other than to drink alcohol. Put simply, they may have had nothing else to do (Bloomfield & Gunthorpe, 2004; McHugh et al., 1979).

As a short-term solution, alcohol consumption may successfully structure time, provide meaningful activity, increase interest, and reduce loneliness in several interdependent ways. Drinking alcohol may give a pseudo-purpose to an activity (i.e. to go out for a drink; sit and relax and have a drink; go out and get drunk). It may temporally locate people in time and space (i.e. have a drink after work – “beer o’clock”; go out for a drink on the weekend). Drinking itself is an on-going activity and can provide a focus for a person’s attention.

Public drinking venues may be particularly attractive to younger men if their boredom stems from an inability to organise time in a way that provides sufficient variety and change in the environment (Vodanovich & Kass, 1990b). Pubs, bars, and taverns can provide immediate stimulation and variety, particularly those that cater for large crowds or provide entertainment and activities, such as gambling venues. Subordinate masculinities can be negotiated at public drinking venues and other forms of masculinist behaviour, such as violence, aggression, and the denigration and sexual harassment of women are socially sanctioned at these premises (Broom et al., 1992; Kirkby, 2003; Kunz & Graham, 1998; West, 2001). Bars, pubs, and taverns may provide men with opportunities for sexual encounters or to form intimate relationships in an attempt to assuage loneliness (Gordon, 1976; Silbereisen et al., 1992; Single, 1985). Alcohol consumption may facilitate such experiences by 'improving' men's confidence and social skills (West, 2001) and through the purchase of beverages for women. Alcohol's success in facilitating transient sexual encounters at public drinking places may, in turn, reinforce future drinking at those venues.

Men may have also used alcohol to modify the negative affect associated with loneliness. Loneliness is believed to be a stressor (Cacioppo, Ernst et al., 2000; Cacioppo, Hawkley et al., 2003; DeBerard & Kleinknecht, 1995; Hawkley & Cacioppo, 2002; Kiecolt-Glaser et al., 1984). Animal studies have shown that alcohol consumption relieves anxiety, and increased levels of anxiety lead to increased levels of alcohol consumption (Grant, 1990; Higley, Hasert, Suomi, & Linnoila, 1991). Human studies have found that more men than women report drinking alcohol to relieve negative affect, such as tension, anxiety, and to forget worries, to cheer up, and to relax (O'Callaghan & Callan, 1992; Wills & Cleary, 1995). Thus, loneliness may have created anxiety for men that may have led to a greater use of alcohol. Although alcohol consumption at home may have attenuated loneliness during free time, that did not appear to be the case for alcohol consumption at pubs, bars, and taverns. The fact that alcohol consumption in a variety of leisure settings was positively, and not negatively associated with loneliness during structured time and boredom during free time suggests that these two emotions may be both causes and effects of alcohol consumption. Alcohol consumption may act as a negative reinforcer to increase men's participation in leisure activities that are perceived as boring (Lister, 1987). The inability to find meaning over the longer term from the regular use of alcohol and the contexts within which alcohol is consumed may intensify feelings of boredom and loneliness. Future research is clearly

needed to clarify the role that alcohol plays during leisure for men who are lonely and bored during free time.

Consuming alcohol while spending a quiet evening at home may be more prevalent for older men who were lonely and bored because they were more constrained by commitments associated with life stage relative to younger men. For example, unlike younger men, older men may have more family commitments that encourage a home-based leisure lifestyle with partners and children. These commitments may restrict men's attendance at public drinking places and/or they may no longer have a need for social contacts at those premises. Older men may also be excluded from pubs, bars, and taverns by the drinking subgroup that defines masculinity in those venues (single, young, heterosexual) (West, 2001). Older men may also have more financial commitments than younger men, and the cost of alcohol at public drinking venues may cause further constraints (Kunz & Graham, 1996). Those factors may lead older men to feel isolated within the home, and they may perceive fewer meaningful leisure alternatives. This may be particularly the case for single fathers and married men whose wives spent long periods of time doing domestic activities while the husbands spent free time alone (Horna, 1989; Orthner & Axelson, 1980; Shaw, 1992; Schneider, 1972; Zuzanek & Smale, 1999). Thus, when older men were unable to achieve optimal arousal during their enforced home-based leisure lifestyle, they may have used alcohol as a way to structure spare time that they did not know what to do with (Bloomfield & Gunthorpe, 2004).

Alcohol consumption behaviours that were associated with loneliness and boredom during free time formed during young adulthood seemed to persist into older adulthood. These findings challenge assumptions that the relationships between boredom and substance use are predominantly found in adolescent and student populations (Caldwell & Smith, 1994; Gordon & Caltabiano, 1996; Iso-Ahola & Crowley, 1991; Orcutt, 1984; Smith & Caldwell, 1989). They demonstrate the importance of early intervention strategies for informing men of the potential of meaningful free time activity. The incorporation of leisure seeking skills as well as hobby-based training or community-based activities into school curriculums may facilitate knowledge about leisure motivation and meaningful leisure choices. This could be conducted in tandem with school education campaigns about the harmful effects of on-going

alcohol consumption and its possible relationship to difficulties with living meaningful leisure lifestyles.

After all of the control variables had been entered into each regression equation, marital status was not significantly associated with a greater proportion of alcohol consumption at any venue. These results were inconsistent with prior studies that found that the proportion of total alcohol consumption during leisure settings was moderated by marital status (Kunz & Graham, 1996; Okraku, 1998; Single & Wortley, 1993). The discrepancies may be due to differences in the multivariate analyses used. There are differences in how the overlapping variance among correlated independent variables is treated with respect to any unique contribution to the prediction of the dependent variable (Tabachnick & Fidell, 2001). Furthermore, the current study included a wider range of control variables, including current and former smoking status. Therefore, any marital status differences in alcohol consumption patterns may be accounted for by variations in other sociodemographic factors or smoking behaviour.

However, after all variables had been entered into the regression equation predicting alcohol consumption at pubs, bars, and taverns, a near significant relationship remained between being unmarried and consuming a larger proportion of alcohol consumption at those venues. Therefore, some marital status differences in the proportion of total alcohol consumption in pubs, bars, and taverns may still exist regardless of a man's socioeconomic status, age, smoking status, leisure time activities, and boredom and loneliness. Future research might need to explore other factors that are differentially distributed between married and unmarried men to understand why unmarried men attend public drinking places more frequently and consume more alcohol at those premises than married men. Divorce and separation cause considerable on-going stress and anxiety, particularly for men (Jordan, 1985; Booth & Amato, 1991). Thus, the convergence of constructs from the current theoretical model and from stress-coping theories may be useful in generating hypotheses about the functions that public drinking places may perform for unmarried men independent of their leisure time activities and feelings of boredom and loneliness.

The results of this phase of the study have added to a relatively small literature in which men's alcohol consumption patterns have been described by examining the social contexts of

men's drinking, the amounts of alcohol consumed in those settings, and the demographic differences in those drinking patterns (Casswell et al., 1993; Holyfield et al., 1995; Kunz & Graham, 1996; O'Callaghan & Callan, 1992; Single & Wortley, 1993). These results highlight the importance of investigating the emotional quality of the leisure lives of heavy and problem drinkers especially in terms of how loneliness and boredom differentially impact the preferred drinking venues and the amounts of alcohol consumed in those venues for younger and older men.

Men's alcohol consumption at public places is increasingly being seen as a major public health and social concern. Policy is currently being developed to reduce the amount of alcohol consumed on those premises, such as legal sanctions against service to intoxicated people (Flaherty & Ireland, 1991). The results of the current study indicate that although such strategies may reduce the incidence of alcohol-related harm at those venues, unless attention is paid to the possible reasons for why men drink alcohol at public places, any prevention strategies may not be successful. If men have a need to consume alcohol at heavy levels during leisure in the absence of any alternative free time activity, then they may choose alternate venues to do so. Problem drinking and alcohol-related harm may just be transferred elsewhere. Knowledge of the interplay of a lack of meaningful activity during free time and the contexts of drinking may provide a more comprehensive framework from which to treat, and more importantly, to prevent drinking patterns that are known paths toward alcohol-related harm (Single & Wortley, 1993).

11.6.3 Time spent in leisure activities and total weekly grams of alcohol consumed, weekly episodes of intoxication, and weekly episodes of binge drinking

Partially supporting the hypothesis, the results of the current study showed that more time spent in social activities was significantly associated with an increase in the total grams of alcohol consumed per week, although the effect was significant at the conservative error rate for married men only. Contrary to expectations, time spent in social activities was not significantly associated with weekly episodes of binge drinking or weekly episodes of intoxication. Also incongruent with the hypotheses, time spent in passive leisure was not significantly related to any measure of heavy alcohol consumption. Contrary to the

hypothesis, increased time spent in active leisure was directly and significantly related to an increase in the number of episodes of intoxication per week, but not with weekly episodes of binge drinking or total grams of alcohol consumed per week. These findings indicate that in addition to the amounts of alcohol consumed in various drinking venues and feelings of loneliness and boredom, men's leisure activities and more time spent in those activities directly influenced heavy alcohol consumption.

The significant relationships between marital status, time spent in social activities, and total weekly alcohol consumption suggest that if married men spent similar periods of time in social activities as unmarried men, both groups of men would consume comparable levels of alcohol on a weekly basis. This finding was consistent with previous research that found men's alcohol consumption levels tended to increase in the company of friends (Hilton, 1991; O'Callaghan & Callan, 1992; Okraku, 1998). These data indicate that it may be the time that single men spent socialising with friends, neighbours, and family, attending sporting and entertainment venues, and attending organisational meetings that accounts for the known association between marital status and heavy drinking (Blaze-Temple et al., 1988; Hilton, 1991; Horwitz & Davies, 1994; Power et al., 1999; Stockwell et al., 1993). Specifically, men integrate alcohol use into their social activities, but unmarried men spend more time in those activities than married men (Okraku, 1998). The associations remained significant after the proportion of total alcohol consumption at home and at pubs, bars, and taverns had been accounted for. These data suggest that the sociability of alcohol consumption may incorporate the time available for a wider range of social leisure pursuits than just the sociable nature of pubs, bars, and taverns.

The relationship between social activities and alcohol remained significant after all variables were entered in the equation. Thus, unmarried men who consumed larger amounts of alcohol spent more time in social activities independent of how bored and lonely they felt. This result is curious given that there was no significant relationship between marital status and time spent in social activities in Section 10.4.2. However, unlike the previous analysis, the present equation did not include the effects of time spent in contracted time and the presence of children in the home on the dependent variable. Thus, the reasons why unmarried men who drank more alcohol on a weekly basis spent more time in social activities than married men may be related to free time availability. Alternatively, the results

may be due to other factors not explored. Because of their marital status, unmarried men may be more likely to be invited to social gatherings, parties, and other functions. Work colleagues and extended family members may place greater expectations upon unmarried men to participate in work-related functions and family social functions where alcohol is often consumed (Kunz & Graham, 1996; Single & Wortley, 1993).

Although the total amount of alcohol consumed was influenced by men's social activities, binge drinking and intoxication were not. These findings suggest that binge drinkers and men who frequently become intoxicated had similar social leisure lifestyles to each other and to other drinkers. Consistent with previous research (Holyfield et al., 1995; Single & Wortley, 1993), the results of the present study also showed that drinking contexts (e.g. while spending a quiet night at home, and at pubs, bars, and taverns) were important predictors of the overall level of alcohol consumption and binge drinking. A greater proportion of total alcohol consumption at public drinking places significantly predicted increased episodes of intoxication. These findings suggest that although their frequencies of engaging in social activities did not differ, men who became intoxicated more often were more likely to concentrate their alcohol consumption at pubs, bars, and taverns. On the other hand, binge drinkers tended to integrate alcohol consumption into both drinking contexts.

The lack of any significant relationships between time spent in passive leisure and heavy drinking outcomes indicates that heavy drinkers do not differ from other drinkers with respect to the amount of time spent watching television and videos, listening to music, resting, relaxing, and doing nothing in particular. However, the results showed a near significant relationship ($p=.02$) between increased episodes of binge drinking and increased time spent in passive leisure through its effect on decreased time spent in social activities. This association remained near significant after controlling for alcohol consumption in pubs, bars, and taverns, and while spending a quiet night at home. This finding suggests that men who were more likely to consume five or more drinks on any one occasion may be more inclined to do so during a wider range of passive leisure activities over and above binge drinking in pubs, bars, and taverns, and while spending a quiet night at home. Such activities may include watching television during the day, reading the newspaper, betting on horse races, and relaxing during the day. The data suggest that they may do so at the expense of a social life. Thus, men with a restricted social network may have lengthier periods of

unstructured time available and they may use alcohol in a wider variety of social and passive leisure contexts as a way to fill prolonged unstructured time. Thus, time available to consume five or more drinks on any one occasion may be one of the many reasons why men engage in binge drinking.

The significant positive relationship found between time spent in active leisure and episodes of intoxication supported previous reports of an association between increased alcohol use during leisure and recreational activities and physical exercise (Kubey & Csikszentmihalyi, 1990; Purdue & Rainwater, 1984; Sessoms & Oakley, 1969; Simpura, 1985; Smothers & Bertolucci, 2001; Young & Kronus, 1977), but is incongruent with other research that showed that physical activity reduced alcohol consumption (Broman, 1993; Huddleston & Hawkings, 1991; Osler, 1995). These results indicate that in addition to consuming more alcohol at pubs, bars, and taverns, Australian men who frequently became drunk spent more time in outdoor activities, such as sport and exercise relative to other drinkers. With the inclusion of time spent in active leisure into the regression equation, the positive relationship between the amount of alcohol consumed while spending a quiet night at home and episodes of intoxication was reduced to non-significance. These data suggest that men who frequently became intoxicated were more likely to integrate alcohol into active leisure pursuits rather than during home-based activities.

Australia's strong masculinist sporting culture may encourage the excessive use of alcohol. Heavy drinking as part of post competition celebrations and socialising is widespread (Australian Drug Foundation, 2003; Burke & Maughan, 2000). The results of a survey of 278 football players in country Victoria, Australia, found that 77% of players socialised at football clubs both after training and after matches, and during club functions. Seventy-three percent of players reported drinking alcohol at the club once or twice a week, and 11% reported doing so three or more times a week. Over half of the sample reported drinking at harmful or hazardous levels, and 34% reported drinking seven or more drinks on each drinking occasion (Australian Drug Foundation, 2003). Thus, the use of alcohol during men's more active leisure activities may be gradually increasing in Australia.

11.6.4 Boredom during free time and total weekly grams of alcohol consumed, weekly episodes of intoxication, and weekly episodes of binge drinking

Partially supporting the hypothesis, after controlling for sociodemographic variables, alcohol consumption in the two drinking venues, and time spent in free time activities, boredom during free time was significantly related to an increase in episodes of intoxication per week, but not to an increase in episodes of binge drinking or the total amount of alcohol consumed per week. Contrary to the hypothesis, an increase in loneliness during structured time also significantly predicted an increase in episodes of intoxication per week.

The absence of a relationship between boredom during free time and total weekly alcohol consumption was inconsistent with the literature (Caldwell & Smith, 1994; Gordon & Caltabiano, 1996; Iso-Ahola & Crowley, 1991; Orcutt, 1984). The results were similarly incongruent with previously reported relationships between loneliness and total alcohol consumption (Åkerlind & Hörnquist, 1992; Barretta et al., 1995; Page & Cole, 1991b). However, the majority of this previous work utilised student samples, used unreliable quantity-frequency measures of alcohol consumption, did not measure heavy drinking, and did not control for the effects of the proportion of alcohol consumption in public and private drinking venues.

In addressing all of these methodological shortfalls, the finding that boredom during free time and loneliness during structured time continued to predict intoxication, but not binge drinking or total alcohol consumption when alcohol consumption in the two drinking venues was controlled, suggests several important findings. First, that the direct relationships between leisure boredom or loneliness and higher levels of total alcohol consumption may have been spurious. The direct effects were probably mediated by the proportion of total alcohol consumption at pubs, bars, and taverns, and while spending a quiet night at home. These results imply that higher levels of total alcohol consumption and binge drinking as a consequence of drinking at pubs, bars, and taverns and while at home may have been sufficient to increase men's arousal during free time, or at least, to reduce the effects of boredom during free time. Conversely, some men may not have been able to achieve

optimal arousal from the consumption of alcohol in social contexts, and this may have led to on-going alcohol use to the point of intoxication.

Men's loneliness and boredom may have been so severe that alcohol consumption to the point of intoxication was the only means of negative affect modification during free time. The large, albeit non-significant negative correlation coefficient that was produced between loneliness during free time and weekly episodes of intoxication supports this explanation. This may explain the previously discussed relationship between intoxication and time spent in active leisure. Men who may have been unable to reduce negative affect while passively using alcohol (while spending a quiet evening at home), or socially (at public venues), may have felt that there were few alternatives but to use alcohol in active leisure contexts.

Alternatively, other factors not analysed in the current study may be involved in the relationship between loneliness, boredom, and episodes of intoxication. Men who were lonely and bored and who became intoxicated more frequently may have integrated alcohol into a greater variety of drinking contexts than other heavy drinkers. For example, the descriptive data showed that in addition to pubs, bars, and taverns, and while spending a quiet evening at home, a large proportion of younger men's total alcohol consumption occurred during a barbeque, party, social gathering, or wedding, during work functions, and at concerts and festivals. Men who are particularly lonely and prone to boredom may seek out more variety during leisure than other men, and those types of activities may be characterised by social contacts that facilitate the reconstruction of masculinity through alcohol use (West, 2001). Heavy drinkers also tend to under-report their levels of alcohol intake (Corti et al., 1990; Poikolainen, 1985). The frequency with which those men drank alcohol at pubs, bars, and taverns, and at home and the amount of alcohol consumed in those venues may have been underestimated in the current study.

Other affective factors may mediate the relationships between loneliness, boredom during free time, alcohol consumption in public and private venues, and episodes of intoxication. The inability to achieve optimal arousal during free time or to reduce loneliness may be a constant source of frustration. For some men, this may lead to feelings of hostility, anger, and fear (Larson & Richards, 1991; Vodanovich et al., 1991). One of the immediate effects of intoxication includes mood intensification (Australian Drug Foundation, 2001). Thus,

men who frequently became intoxicated may have done so to cope with those negative emotions (Billings & Moos, 1981; Lazarus & Folkman, 1984). Those emotions may also be involved in the relationships between men's intoxication and violence and aggression at public drinking venues (Kunz & Graham, 1998). A challenge for future research is to identify the intermediary variables that account for the direct effects of loneliness and boredom during free time on episodes of intoxication.

An additional finding from the present study was that boredom during free time accounted for the near significant ($p=.02$) association between younger age and a greater number of episodes of intoxication per week. Previous research has reported that younger men become intoxicated more frequently than older men (Fisher, 1981; Single & Wortley, 1993). The results of the current study indicated that the inability to reduce boredom during free time might explain why younger men are at a higher risk of experiencing the negative harmful consequences of heavy alcohol consumption. Future research could test the explanatory power of boredom during free time in accounting for age differences in heavy alcohol consumption patterns.

11.6.5 The joint use of tobacco and alcohol

Although not related to the current hypotheses under investigation, the results of the current study also showed that the distribution of total cigarette use in different settings mirrors the distribution of total alcohol consumption. The results of this survey provide the first empirical validation of cigarette smoking in different social settings. It was found that older and married men smoked the highest proportion of tobacco intake while spending quiet time at home during the day, or when spending a quiet night at home. Younger men and unmarried men smoked a relatively greater share of their total tobacco intake while spending a quiet night at home or when attending a pub, bar, or tavern.

Previous work that has been conducted in relation to drinking venues has not considered the fact that tobacco and alcohol use tend to go together (Istvan & Matarazzo, 1984; Shiffman & Balabanis, 1995; Sobell et al., 1990). The present study included cigarette smoking as a predictor of drinking venue, and the results showed that the proportion of men's total alcohol consumption in pubs, bars, and taverns was strongly related to current smoking

status. These results were congruent with the literature that showed that men who consume larger amounts of alcohol also tend to use tobacco (Eward et al., 1985; Fillmore et al., 1998; Green & Harari, 1992; Kozlowski & Ferrence, 1990; Marmot et al., 1981; Patten et al., 1996; Shaper, 1990; Shaper et al., 1988; van Assema et al., 1993). These data support the notion that the concomitant use of tobacco and alcohol may be more important to men's morbidity and mortality than the independent effects of each (Green & Harari, 1992; Jenks, 1991).

The results of the current study also suggest that alcohol and tobacco may both be used at the same venues and probably at the same time. These data indicate that a systematic examination of the relationship between the social contexts of alcohol consumption and tobacco use has scientific and practical value. Future examinations of men's tobacco use in the context of drinking venues may yield additional knowledge in relation to the epidemiology of tobacco use, the determinants of heavy use, and factors that may impede smoking cessation. Factors that increase men's alcohol consumption in those venues may also increase the probability of smoking, and *vice versa* (Sobell et al., 1990). Therefore, strategies such as the prohibition of cigarette smoking at licensed premises may be one effective means to reducing the amount of alcohol consumed on those premises.

The results also showed that former smokers consumed a larger proportion of their total alcohol intake while spending a quiet night at home. These results highlight that the smoking history of a man may provide crucial information to researchers in relation to his exposure to other health risks than would not be normally available using standard quantity-frequency or current smoker status measures of tobacco use (Kozlowski & Ferrence, 1990). These data suggest that smoking history may be strongly involved in the relationship between heavy drinking and mortality, and its omission from mortality studies may confound the associations between non-drinking, responsible consumption, heavy drinking, and mortality risk (Kozlowski & Ferrence, 1990).

The results of the current study also showed that loneliness during structured time and boredom during free time might be involved in the relationships between tobacco and alcohol use and men's leisure time. For example, the results indicated that former smokers who consumed a larger proportion of their total alcohol intake at home were lonelier than current smokers or non-smokers. Unlike non-smokers and former smokers, current smokers

who were bored during free time became intoxicated more often and current smokers who spent more time in passive leisure reported a greater number of episodes of binge drinking. The relationships between boredom during free time, current smoking status, and increased episodes of intoxication support previous research that found a relationship between boredom during free time and tobacco use (Gordon & Caltabiano, 1996; Smith & Caldwell, 1989). However, the majority of this work has been conducted on high school students, and the current study shows the pervasiveness of that association in the general male population. This study builds on this knowledge and showed that lower levels of meaningful activity during men's free time may very much involved in the concomitant use of alcohol and tobacco. It may also play a synergistic role in the relationship between tobacco and alcohol use and mortality (Blot, 1992; Patten et al., 1996; Rehm et al., 1993).

11.7 Summary and concluding comments

The aim of this phase of the study was to investigate whether a direct link could be established between how men spent leisure time, how they felt during that time, and unhealthy lifestyle behaviours, namely heavy alcohol consumption. A subsidiary aim was to explore the degree to which those factors could explain the demographic distribution of heavy alcohol consumption. The results of the current study illustrated that men's problematic drinking behaviours may be influenced by a complex interplay of the social contexts in which drinking occurs, loneliness, boredom during free time, and the periods of time spent in certain types of leisure activities.

These findings integrate and extend a body of knowledge that has primarily focussed exclusively on the physical setting of alcohol consumption. By examining those relationships in gender-relations theoretical framework, evidence has been proffered to suggest that maladaptive patterns of alcohol consumption may be part of a wider set of social and political problems. The data has suggested that alcohol consumption in a variety of behavioural contexts may be an alternative masculine leisure activity for men. Alcohol consumption may be the most effective strategy that men believe is available to achieve optimal arousal during free time to reduce loneliness and increase interest where there is an absence of any alternative meaningful structured free time activities. By examining the functional aspects of heavy alcohol consumption during men's unstructured free time,

research has moved forward in its understanding of the factors that may determine men's drinking patterns, and those that may affect their abilities to change their behaviour.

The results of the current study have also indicated that although alcohol consumption at home and at public drinking venues both predicted a set or syndrome of problem drinking behaviours, each specific type of problem drinker may display a unique leisure lifestyle. Men's total alcohol consumption appeared to be more dependent upon the sociability of alcohol consumption; binge drinking was more characterised by the integration of alcohol in passive contexts as an alternative to social activities; and intoxication was strongly influenced by alcohol use in active leisure contexts. These data provide further evidence that men's leisure activities, especially, active leisure, may not necessarily promote health. On the contrary, for Australian men, leisure activities, poor mental health, and unhealthy lifestyle behaviours appear to be linked.

Epidemiological research has found that unhealthy behaviours such as alcohol and tobacco use and leisure time physical inactivity tend to co-occur. For that reason, they may represent a risk behavioural syndrome (Jessor, Donovan, & Costa, 1991). The findings from the current study showed that leisure time activities, loneliness during structured time, and boredom during free time were strongly related to men's alcohol and tobacco use. Therefore, it may be more accurate to suggest that men's unhealthy behaviours represent a *risk leisure syndrome* that encompasses the co-occurrence of a set of unhealthy emotions and risk and leisure behaviours. The set of emotions and behaviours may be manifestations of the single underlying construct of a lack of meaningful structured free time activity.

Boredom has been associated with a wider range of health damaging behaviours and social problems. Among students, it has been related to truancy (Wasson, 1981), low academic achievement (Maroldo, 1986; Robinson, 1975), and dropping out of school (Robinson, 1975). Boredom has also shown associations with eating disorders (Abramson & Stinson, 1977; Ganley, 1989), illicit drug use (Johnston & O'Malley, 1986; Iso-Ahola & Crowley, 1991), and pathological gambling (Blaszczynski et al., 1990). Possible explanation for these behaviours may be related to fewer opportunities to sustain meaningful free time activity. Research is needed to explore those relationships and to examine the potential of meaningful structured free time activity as a risk reduction strategy among those population groups.

CHAPTER 12

PHASE 5: THE OBJECTIVE AND SUBJECTIVE ASPECTS OF FREE TIME AND MORTALITY RISK

12.1 Aim

The main aim of phase 5 of the study was to identify the relationships between marital status, meaningful activity, loneliness, interest, and boredom during free time, loneliness and boredom during structured time, time spent in active leisure, passive leisure, and social activities, and mortality risk, when known mortality risk factors were controlled.

12.2 Hypotheses

It was hypothesised that:

1. Increased time spent in active leisure would be associated with higher physical and mental health scores, and increased time spent in passive leisure and social activities would be associated with lower physical and mental health scores.
2. Increased boredom during free time would be associated with lower physical and mental health scores.
3. There would be no relationships between meaningful activity, loneliness, and interest during free time, or boredom and loneliness during structured time and health after the variance associated with boredom during free time was accounted for.
4. The relationship between marital status and health would be accounted for by marital status differences in boredom during free time.

12.3

Results

12.3.1

Descriptive statistics

12.3.1.1

Health

The means and standard deviations for the scores on the MCS-12, PCS-12, and the SSC for the sample and by marital status are presented in Table 38. Table 39 displays the means and standard deviations for each health measure by age category.

Table 38 shows that, on average, men reported good physical health. Mental health scores were slightly below average. In terms of physical symptomatology, on average, men reported only a minor presence of common physical symptoms. Relative to being unmarried, being married was associated with slightly higher mental health scores, but slightly lower physical health scores.

Table 38
Means and Standard Deviations for PCS-12, MCS-12 and SSC Scores for the Sample and by Marital Status

Marital Status	PCS-12		MCS-12		SSC	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Total Sample (n=186)	52.60	7.45	48.98	9.67	1.30	0.24
Married (n=84)	51.62	8.42	49.47	8.44	1.29	0.20
Unmarried (n=102)	53.36	6.48	48.67	10.66	1.31	0.26

Table 39 shows that physical health and physical symptom reporting declined with age except for a slight increase in physical symptom reporting by men in the 46 to 55 years of age group. Mental health generally improved with age, and a peaked increase in mental health was observed for men in the 26 to 35 years of age group.

Table 39
Means and Standard Deviations for PCS-12, MCS-12 and SSC for Each Age Group

Age Group	PCS-12		MCS-12		SSC	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
18 to 25 years (n=30)	54.48	5.49	45.50	11.36	1.48	0.35
26 to 35 years (n=56)	53.80	5.67	50.16	9.74	1.25	0.14
36 to 45 years (n=46)	53.74	7.07	48.73	9.42	1.23	0.16
46 to 55 years (n=42)	49.63	8.59	49.68	8.15	1.33	0.25
56 years and over (n=12)	48.26	11.66	50.75	10.09	1.24	0.14

12.3.1.2 Symptom reporting

Ninety-eight percent of men reported experiencing at least one physical symptom in the four weeks prior to the study. Most of the symptoms were minor ailments and were experienced with very little severity. Tiredness was the most commonly reported physical condition, experienced by 79.7% of men. Tiredness was also the most severely experienced symptom with 20.3% of men having reported experiencing the condition quite a lot or a great deal. Other frequently reported symptoms were headache (69.2%), sleeplessness (65.4%), back pain (59.4%), runny nose (55.6%), sore throat/cough (44.4%), upset stomach (36.8%), and indigestion/heartburn (30.8%).

12.3.2 Tests of hypotheses

Three hierarchical multiple regression equations tested whether the objective and subjective aspects of men’s leisure time use directly predicted physical and mental health when all known risk factors were controlled. The three dependent variables were the physical health (PCS-12) summary scale of the SF-12, the mental health (MCS-12) summary scale of the SF-12, and the Symptom Severity Checklist (SSC). One hierarchical multiple regression equation was calculated for each dependent variable. Alpha was apportioned at .009 for each dependent variable.

In the first step, age, marital status, occupational status, educational level, prior health status, family medical history, number of children in the household, cigarette smoker status, total weekly alcohol consumption, and weekly episodes of intoxication were all entered as control variables. The variable representing weekly episodes of binge drinking was excluded from the analyses due to its high bivariate correlations with total weekly alcohol consumption (.87) and weekly episodes of intoxication (.80) (Tabachnick & Fidell, 2001).

Time spent in active leisure, time spent in passive leisure, and time spent in social activities were entered as a set of variables in the second step. A significant R^2 at this step with one or more variables uniquely predicting the dependent variable would indicate that time spent in leisure activities affect men's health in the hypothesised direction, over and above variations attributable to the control variables. Boredom during free time was entered into the equation in the third step. A significant R^2 at this step with a negative correlation coefficient between boredom during free time and one or more of the dependent variables would support hypothesis 2. Hypothesis 4 would be supported when the significant relationship between marital status and health became non-significant at this step. The remaining subjective variables were entered in subsequent steps. Non-significant R^2 values at each of these steps would support hypothesis 3.

12.3.2.1 The objective and subjective aspects of free time and physical health

Table 40 shows that the set of control variables predicted physical health at a less conservative error rate (R^2 change = 0.12, $F(11,165) = 2.06$, $p=.03$). None of the control variables uniquely predicted the dependent variable at $p=.009$, although the relationship between age and physical health neared significance ($p=.02$). At the next step, the set of variables representing the time men spent in leisure activities significantly increased the prediction of PCS-12 scores (R^2 change = 0.06, $F(3,162) = 3.97$, $p=.009$). Increased time spent in active leisure uniquely predicted better health ($t(3,162) = 2.80$, $p=.006$). The relationship between less time spent in passive leisure and better physical health neared significance ($p=.045$). At the next step, boredom during free time did not significantly predict PCS-12 scores (R^2 change = 0.01, $F(1,161) = 1.09$, $p=.30$). The inclusion of loneliness during free time and interest during free time did not account for a significant proportion of the variance associated with physical health (R^2 change = 0.01, $F(2,159) =$

0.60, $p=.55$). However, at this step, the relationship between reduced passive leisure and physical health became weaker ($p=.06$). At the next step, meaningful activity during free time significantly predicted PCS-12 scores (R^2 change = 0.03, $F(1,158) = 6.92$, $p=.009$). At the final step, boredom and loneliness during structured time did not significantly predict PCS-12 scores (R^2 change = 0.03, $F(2,156) = 2.77$, $p=.07$).

Table 40
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men’s Free Time on PCS-12 Scores with Known Demographic, Health, and Behavioural Risk Factors Controlled

Step	Predictor	Beta	FINAL SUMMARY				STEP SUMMARY	
			r	sr	pr	Tol	R ² ch	F ch
1	Age	-.21†	-.23	-.15	-.17	.51	0.12	2.06†
	Marital status	-.10	-.12	-.06	-.07	.39		
	Occupation status	.16†	.18	.14	.16	.75		
	Education status	-.18†	-.17	-.14	-.16	.60		
	Number of children	.10	-.05	.07	.08	.52		
	Prior medical history	-.06	-.09	-.05	-.06	.77		
	Family medical history	-.04	.07	-.04	-.04	.74		
	Former smoker	-.06	-.14	-.05	-.06	.69		
	Current smoker	.04	-.04	.03	.03	.64		
	Total alcohol consumption	.13	-.01	.08	.10	.42		
	Intoxication	-.14	.03	-.08	-.09	.36		
2	Active leisure	.22*	.22	.19	.22	.76	0.06	3.97*
	Passive leisure	-.09	-.16	-.07	-.08	.67		
	Social activities	-.09	.02	-.08	-.09	.81		
3	Boredom free time	-.01	.10	-.00	-.00	.39	0.01	1.09
4	Loneliness free time	.16	.14	.10	.12	.38	0.01	0.60
	Interest free time	-.13	-.05	-.10	-.11	.58		
5	Meaning free time	.25*	.15	.20	.23	.67	0.03	6.92*
6	Boredom structured time	.21†	.14	.16	.18	.59	0.03	2.77
	Loneliness structured time	-.16	.14	-.10	-.11	.34		
Multiple R		0.50						
R ²		0.25						
Adjusted R ²		0.16						
F (20,156)		2.64***						

*** $p < .001$, * $p < .009$, † $p < .05$

12.3.2.2 The objective and subjective aspects of free time and physical
symptomatology

Table 41 shows that the set of control variables produced a near significant R^2 (R^2 change = 0.12, $F(11,165) = 1.97$, $p=.03$). None of the control variables uniquely predicted the dependent variable at $p=.009$, although marital status ($p=.02$) and weekly episodes of intoxication ($p=.02$) neared significance. With the control variables adjusted for, time spent in leisure activities did not significantly predict physical symptomatology scores at step 2 (R^2 change = 0.02, $F(3,162) = 1.18$, $p=.32$).

Table 41
Hierarchical Multiple Regression of the Objective and Subjective Aspects of Men's Free Time on SSC Scores with Known Demographic, Health, and Behavioural Risk Factors Controlled

Step	Predictor	Beta	FINAL SUMMARY			Tol	STEP SUMMARY	
			r	sr	pr		R ² ch	F ch
1	Age	.19	.12	.13	.16	.48	0.12	1.97†
	Marital status	-.27†	-.03	-.17	-.20	.39		
	Occupation status	.13	.13	.11	.13	.78		
	Education status	-.08	-.00	-.06	-.07	.63		
	Number of children	.18	.07	.13	.15	.51		
	Prior medical history	.08	.04	.07	.08	.83		
	Family medical history	.13	.09	.11	.13	.66		
	Former smoker	-.04	-.14	-.04	-.04	.70		
	Current smoker	-.01	.11	-.01	-.01	.62		
	Total alcohol consumption	.19	-.02	.13	.15	.43		
	Intoxication	-.14	-.14	-.08	-.09	.35		
2	Active leisure	.19†	.01	.16	.18	.74	0.02	1.18
	Passive leisure	-.04	-.09	-.03	-.03	.65		
	Social activities	.02	.05	.02	.02	.78		
3	Boredom free time	-.13	-.25	-.08	-.09	.39	0.04	7.23*
4	Loneliness free time	.01	-.30	.01	.01	.37	0.03	3.23†
	Interest free time	-.13	.05	-.10	-.11	.59		
5	Meaning free time	.12	.09	.09	.11	.64	0.00	0.79
6	Boredom structured time	.12	-.14	.09	.10	.53	0.07	7.25*
	Loneliness structured time	-.45***	-.36	-.25	-.28	.31		
Multiple R		0.53						
R ²		0.28						
Adjusted R ²		0.18						
F (20,156)		2.97***						

*** $p < .001$, * $p < .009$, † $p < .05$

In the next step, the inclusion of boredom during free time significantly increased the prediction of the dependent variable (R^2 change = 0.04, $F(1,161) = 7.23$, $p=.008$). At this step, the relationship between weekly episodes of intoxication and health became weaker ($p=.03$). At the next step, interest during free time and loneliness during free time did not account for a significant proportion of the variance in SSC scores at the conservative error rate (R^2 change = 0.03, $F(2,159) = 3.23$, $p=.04$), although the coefficient for loneliness during free time neared significance ($p=.01$) and the relationship between boredom during free time and the dependent variable became non-significant ($p=.24$). At step 5, the inclusion of meaningful activity during free time did not add to the prediction of the dependent variable (R^2 change = 0.00, $F(1,158) = 0.79$, $p=.37$).

At the last step, loneliness during structured time and boredom during structured time significantly predicted SSC scores (R^2 change = 0.07, $F(2,156) = 7.25$, $p=.001$). Loneliness during structured time was the only variable that uniquely predicted the dependent variable ($t(2,156) = -3.69$, $p=.0001$). At this step, the regression coefficient between weekly episodes of intoxication and SSC scores became even weaker ($p=.24$), and marital status differences in health neared significance ($t(2,156) = -2.50$, $p=.01$). The previous non-significant relationship between increased time spent in active leisure and fewer symptoms neared significance at this step ($p=.02$), and the relationship between loneliness during free time and SSC scores became weaker ($p=.92$).

12.3.2.3 The objective and subjective aspects of free time and mental health

Table 42 shows that at the first step, the control variables showed a near significant relationship to mental health scores (R^2 change = 0.12, $F(11,165) = 2.06$, $p=.03$). Only education ($p=.01$) and weekly episodes of intoxication ($p=.01$) showed near significant unique associations with the dependent variable. At step 2, with the control variables adjusted for, time spent in leisure activity types did not significantly increase the prediction of mental health (R^2 change = 0.02, $F(3,162) = 1.06$, $p=.37$).

At the next step, boredom during free time significantly predicted MCS-12 scores (R^2 change = 0.04, $F(1,161) = 7.40$, $p=.007$). At this step, the relationship between weekly episodes of intoxication and mental health became weaker ($p=.13$). The inclusion of interest during free

12.4 Summary of main findings

1. Less time spent in active leisure and a reduction in meaningful activity during free time significantly predicted poor general physical health.
2. An increase in boredom during free time and an increase in loneliness during structured time significantly predicted poorer mental health and higher physical symptomatology.
3. An increase in loneliness during free time accounted for the significant relationship between an increase in boredom during free time and higher physical symptom reporting.
4. An increase in loneliness during structured time accounted for the significant relationship between an increase in boredom during free time and poorer mental health.

12.5 Discussion

The aim of this phase of the study was to systematically test whether the objective and subjective aspects of men's unstructured free time directly predicted an increased risk of mortality when all known mortality risk factors were controlled. It was hypothesised that increased boredom during free time, increased time spent in passive leisure and social activities, and less time spent in active leisure would predict poor health. Boredom during free time was hypothesised to account for the significant relationships between marital status and health. It was further hypothesised that meaningful activity, loneliness and interest during free time, and loneliness and boredom during structured time would not be significantly related to health after the effects of boredom during free time were accounted for. The results showed that when all factors known to affect men's mortality were adjusted for, less time spent in active leisure and lower ratings of meaningful activity during free time directly and significantly predicted poorer physical health. Time spent in passive leisure and social activities did not significantly predict health. Boredom during free time and loneliness during structured time negatively and significantly predicted both physical symptomatology

and mental health. The results also indicated that the marital status difference in physical symptomatology reporting was significantly related to increased loneliness during structured time. Therefore, the hypotheses were partially supported.

12.5.1 Boredom during free time and health

The negative and significant relationships between boredom during free time and mental health and physical symptomatology were consistent with the hypotheses and with previous reported associations between leisure boredom and impaired mental health (Caldwell et al., 1992; Gordon & Caltabiano, 1996; Haworth & Ducker, 1991). The lack of a significant relationship between boredom during free time and general physical health was contrary to other research that found that leisure boredom and boredom proneness predicted poorer self-reported physical health (Sommers & Vodanovich, 2000; Weissinger, 1995). These previous studies compared the physical health scores of high and low boredom groups of undergraduate students without controlling for the influence of unhealthy lifestyle behaviours or any other risk factors for morbidity. Therefore, the findings of these studies may have been spurious, for when all variables known to shape men's morbidity and mortality were adjusted for in the present study, no significant relationship between boredom and physical health was found. These results suggest that among adult men, increased boredom during free time may indirectly worsen physical health through its effects on alcohol consumption behaviour. However, men who were bored during free time reported more physical symptoms and poorer mental health regardless of their alcohol consumption levels and participation in other unhealthy lifestyle behaviours, leisure lifestyles, or their sociodemographic or socioeconomic risk. The next research step may be to identify whether the direct relationship between boredom during free time and physical health continues to exist for students and adolescents in the presence of those intervening variables.

It is important to note that the relationships between boredom during free time and mental health and physical symptomatology were found at a very conservative significance level. Furthermore, men reported lower levels of boredom during free time relative to structured time. This makes the findings stronger given that the significant effect of boredom on health was found during time that was characterised by lower ratings of boredom. Thus, even at low levels, the effects of boredom during unstructured time were sufficiently powerful to

discriminate between healthy and less healthy men. In contrast, higher levels of boredom during structured time were not significantly related to poorer health on any of the three measures. The conclusion to these findings is that any effects of boredom on men's health, regardless of whether it is boredom-proneness, chronic boredom, or situational boredom (Todman, 2003), may only be manifested during free time. Therefore, boredom during free time may be a more valid scientific construct than job boredom, boredom proneness, or chronic boredom (Farmer & Sundberg, 1986; Fisher, 1993; Todman, 2003).

Perhaps the reason for the relationship between boredom during free time and poorer mental health and greater symptom reporting is that boredom precipitated symptoms of anxiety and depressed affect (Ahmed, 1990; Blaszczynski et al., 1990; Farmer & Sundberg, 1986; Sommers & Vodanovich, 2000; Vodanovich et al., 1991). Other researchers have reported that tiredness, lethargy, and drowsiness accompanied the emotional experience of boredom (Farmer & Sundberg, 1986; McGiboney & Carter, 1988). Therefore, it is not surprising that the physical symptoms most often experienced by men in the current study were anxiety and depressive symptomatology such as tiredness, headache, and sleeplessness (APA, 1994). Anxiety and depression may increase the risk of mortality by interfering with the functioning of the human immune and neuroendocrine systems (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002), facilitating early onset of physical disability (Bruce & Leaf, 1989), and increasing the likelihood of heart disease (Martin et al., 1995). In distinguishing between fear and anxiety, Lazarus (1993) argued that fear occurs in response to a concrete threat or harm, whereas anxiety occurs in response to an existential threat to who we are and what life meanings we hold. Thus, feelings of boredom may trigger men to worry about their daily lives and their futures. Feelings of worthlessness and disinterest may ensue. These symptoms may be prodromal to more serious and chronic conditions in later years, such as major depressive disorder, alcohol dependence and abuse, chronic disability, and suicide.

It has been suggested that low prevalence rates of depressed mood and major depressive disorder among men reflects their reluctance to report negative affect (Phillips & Segal, 1969; Vredenburg, Krames, & Flett, 1986), although the evidence supporting that claim is tenuous (Gove & Tudor, 1973; Ross & Bird, 1994; Verbrugge, 1985). If there is a denial of depression among men, it may be expressed as the emotion of boredom. Men's boredom

during free time may explain, in part, why the comorbidity of alcohol-related disorders and anxiety and affective disorders are more prevalent among men than women (ABS, 1998; Brown & Harris, 1978; Mirowsky & Ross, 1989; Najman, 1996).

It has been well established that self-reports of health status are valid and reliable predictors of subsequent mortality, particularly when the health measures include a question relating to a person's general health status (Fayers & Sprangers, 2002; Idler & Benyamini, 1997). The SF-12 used in the current study included one question that asked men to rate their general health on a five-point rating scale. Thus, the SF-12 may be a highly valid and reliable predictor of subsequent mortality for men in the current study. Given that boredom during free time predicted scores on the SF-12 after having controlled for all risk factors known to influence the sex differential in mortality, and boredom during free time may be more prevalent among men than women, then boredom during free time may reduce the sex differential in mortality. Boredom during free time may explain why major depressive disorder is a major risk factor for premature mortality for men only (Anonymous, 2003; Martin et al., 1995).

Contrary to the hypothesis, boredom during free time did not account for any significant relationship between marital status and health. In fact, marital status was not a significant predictor of health, on any of the three measures, after all the control variables had been adjusted for each other. Thus, if any significant marital differences in health existed in the sample of men in the current study, they may have been accounted for by variations in the wide range of other risk factors that were included in the analyses. The majority of surveys that have shown marital status differences in self-rated health and mortality have reported descriptive data with no adjustment for other risk factors or have included only a limited number of control variables in multivariate analyses (Ebrahim et al., 1995; Hu & Goldman, 1990; Joung et al., 1995; 1997; Mathers, 1994a; Rogers, 1995; Watson, 1995; Wyke & Ford, 1992). The results of the current study suggest that on indices of self-rated health, the scores of married men may not differ from married men when sociodemographic factors, prior medical history, smoking status and alcohol consumption levels are taken into account. Moreover, when these factors were adjusted for each other, marital status variations in boredom during free time did not predict marital status differences in self-rated health. Thus, any direct harmful health effects of boredom during free time may not be differentially

distributed between married and unmarried men when other risk factors are accounted for. Despite this, the results of the structural equation model showed that unmarried men were significantly more bored during free time than married men. Over time, any negative health effects of boredom during free time for unmarried men may become more serious, and this may be determined by factors such as the period of bachelorhood, the elapsed time since marital dissolution, widowhood, or remarriage. Older men who were separated, divorced, and widowed were under-represented in the current study and younger never married men were over-represented. Thus, any health variations due to boredom during free time between married and unmarried men may have been accounted for by age. Longitudinal studies may be successful in determining whether marriage protects men from any poor health outcomes and premature mortality due to boredom during free time.

The results of the structural equation model also showed that younger men were more bored than older men. Therefore, boredom during free time may be a starting point from which to theorise about reasons for the higher rates of suicide in this age group (Trewin, 2003). Furthermore, boredom during free time was a stronger predictor of drinking alcohol in public places for younger men than for older men. The frequency with which men consume alcohol in bars and the amount of alcohol consumed in those venues has been associated with an increase in injuries, motor vehicle accidents, and physical fights (Casswell et al., 1993; Kunz & Graham, 1998; Stockwell et al., 1991). These events may account for the higher number of accidents and injuries reported among the young. These injuries and accidents may lead to an increase in physical symptom reporting that cannot be attributed to the direct effects of alcohol, and may be precursors to the early onset of disability (Bruce & Leaf, 1989).

12.5.2 Loneliness during structured time and health

The finding that higher ratings of loneliness during structured time were significantly associated with impaired mental health and increased physical symptom reporting over and above the variance attributable to boredom during free time was contrary to the hypotheses. These results indicate that an increase in loneliness during structured time is related to men's poorer mental health and an increase in the number of physical symptoms reported, regardless of how bored they felt during free time. These results were consistent with

previously reported associations between loneliness and symptoms of depression and anxiety, psychological distress, low self-esteem, physical symptom reporting, chronic illness, and self-reported ill-health (Andersson, 1993; Brage et al., 1993; Corty & Young, 1981; DeBerard & Kleinknecht, 1995; Gerstel et al., 1985; Hsu et al., 1986; Jackson & Cochran, 1990; Lichtenstein & Pedersen, 1995; Mahon et al., 1997; Murphy & Kupshik, 1992; Nurmi et al., 1997; Perlman et al., 1978; Schumaker et al., 1992).

Previously, evidence from survey data for the direct and indirect associations between loneliness, health risk behaviours, and poor health outcomes has been inconsistent (Fees et al., 1999; Mahon et al., 1998; Page et al., 1993; Tijhuis et al., 1999; Wickrama et al., 1995). More rigorous studies from the disciplines of psychophysiology and epidemiology have shown that loneliness continued to predict morbidity and mortality in the presence of a wide range of behavioural and affective variables. Any intervening variables that may account for the health damaging effects of loneliness have eluded researchers (Cacioppo et al., 2002; Hawkey et al., 2003; Lichtenstein & Pedersen, 1995; Olsen et al., 1991; Sorkin et al., 2002). For the present study, it was hypothesised that boredom during free time would mediate the relationship between loneliness and negative health outcomes. The results of the current study showed that boredom during free time shared a small proportion of the variance between loneliness during structured time and mental health, and loneliness during free time shared all of the variance associated with boredom during free time and physical symptom reporting. However, loneliness during structured time continued to significantly predict mental health and physical symptom reporting when boredom during free time and other variables were controlled. Thus, although the current study has taken one small step in explaining how loneliness may affect health, it has been unable to identify any behavioural or affective variable that may mediate the relationship.

The strong relationship between loneliness and health shown in the current study, even after controlling for 19 other important variables, highlights several important points. First, loneliness may be a chronic health complaint for many men, regardless of marital status, age, or other biopsychosocial factors. Second, although men's alcohol consumption patterns may be associated with the reduction of loneliness during free time, the inability to reduce its chronicity may be inimical to health. Third, the structural equation model indicated that during unstructured free time, increased loneliness during structured time combined with a

reduction in meaningful activity, a reduction in interest, and increases in loneliness and boredom. Thus, a lack of meaningful activity during free time may exacerbate the negative health effects of loneliness during structured time. Therefore, the ability to reduce loneliness with meaningful activity during free time may be a major contributing factor to men's health.

Loneliness may affect health in a number of ways. Loneliness has been associated with an increased risk for depression (Ernst & Cacioppo, 1999; Shaver & Brennan, 1991). However, it is possible that boredom accounts for the relationship between loneliness and depressive affect, and this may explain why loneliness predicts negative health outcomes even after controlling for symptoms of depression (Hawkley et al., 2003). Another possible pathway through which loneliness may contribute to morbidity and mortality is through stress reactivity. In comparison to non-lonely people, lonely people report higher levels of perceived stress and more severe daily hassles (Hawkley et al., 2003). Loneliness has been associated with physiological stress symptomatology including increased blood pressure and blood flow and increases in neuroendocrine activity (Cacioppo, Ernst et al., 2000; Cacioppo, Hawkley et al., 2003; Hawkley & Cacioppo, 2002). Persistent physiological activation may lead to hypertension and other risk factors for heart disease.

Loneliness is also believed to weaken the body's restorative functions. Lonely people report sleep disturbances, and in comparison to non-lonely people, lonely people report poorer sleep quality and greater difficulties in daily functioning due to sleepiness (Cacioppo, Hawkley, & Berntson, 2003; Cacioppo, Hawkley, Crawford et al., 2002). Loneliness has also been associated with lower levels of natural killer cells, which are believed to be important in the defence against cancer (Kiecolt-Glaser et al., 1984). If loneliness for men is a mismatch between a desire for a leisure time partner and the availability of a leisure time partner, then loneliness may be a stressor because it incorporates a failure to locate a person to assuage the loneliness. The desire for a partner itself may be a stressor, reflecting an anxiety for dependence (Andersson, 1993). Not having their long-term needs met by women in a marital relationship may cause men to worry about the problems associated with forming and maintaining friendships and how to care for themselves (Ritter & Cole, 1992). Future research in relation to the negative health effects of loneliness may benefit from testing hypotheses that focus on the mediating roles of stress and anxiety.

The results also showed that after all the variables had been included in each equation, indices of social support, such as marital status, number of children in the home, employment status, and time spent in social activities did not significantly affect health. Since Berkman and Syme's (1979) pioneering research, a burgeoning area of scientific inquiry has focussed on the effect of social ties on mortality. Contrary to the current findings, those studies found evidence that a greater number of social ties protected health and improved longevity (Blazer, 1982; Eng et al., 2002; Hanson & Isacson, 1992; House et al., 1988; Kawachi et al., 1996; Osler, 1995; Reynolds & Kaplan, 1990; Rozanski et al., 1999; Seeman, 1996; 2000; Seeman et al., 1987; Undén & Orth-Gomér, 1989; Vogt et al., 1992; Welin et al., 1985). However, these studies did not investigate any mediating effects of loneliness on the relationships between social ties and risk of mortality. The current results showed that loneliness existed in the presence of all those social relationships, and continued to predict negative health outcomes when those variables were controlled. These findings are consistent with several studies that showed that loneliness was a stronger predictor of morbidity and mortality than measures of social support (Corty & Young, 1981; Gerstel et al., 1985; Hawkey et al., 2003; Lichtenstein & Pedersen, 1995; Olsen et al., 1991; Sorkin et al., 2002). Thus, social ties are conceptually dissimilar to loneliness, and it may be loneliness and not a deficit in social ties that increases men's risk of morbidity and mortality. The current study was methodologically rigorous in comparison to epidemiological studies in that it included multiple indices of social ties, as well as measures of the time men spent in all activities, and their subjective evaluations during all activities. The current study also employed highly reliable and valid time-use methodology, while accounting for daily and seasonal variations in behaviour.

Although the relationship only neared significance, loneliness during structured time, but not boredom during free time accounted for the relationship between marital status and physical symptom reporting. The results indicated that if unmarried men had comparable levels of loneliness during structured time to married men, they might be as healthy as married men. Loneliness has been shown to interact with sex and marital status in the normal population whereby married men are less lonely than married women, and unmarried men are lonelier than unmarried women (Dykstra, 1995; Peters & Liefbroer, 1997; Pinquart, 2003; Stack, 1998; Tornstam, 1992; Zhang & Hayward, 2001). Loneliness impairs health and longevity for men more than for women (Gerstel et al., 1985; Olsen et al., 1991), and the most

ubiquitous predictor of longevity for men is being married (Berkman & Syme, 1979; Kawachi et al., 1996; Tucker et al., 1999; Unger et al., 1999). Therefore, loneliness may be a factor that minimises the sex and marital status differentials in mortality. The sex by marital status variations in loneliness may explain why marriage is more beneficial to the health of men than women's health (de Jong-Gierveld & Tilburg, 1989; Wood, 1978). These findings suggest that epidemiological research may need to make a large theoretical shift from using composite social network scores to measuring the phenomenology of the absence or presence of social ties to fully understand the ways in which social networks may influence the risk of mortality.

12.5.3 Meaningful activity during free time and health

The significant relationship found between lower ratings of meaningful activity during free time and poor physical health was contrary to the hypothesis. These results suggest that men who had difficulty sustaining meaningful free time activity were more likely to report poorer physical health irrespective of the degree to which they were bored during free time. This finding was consistent with studies by Maltby and Day (2001) and Waters and Moore (2002) who found that the meaningfulness of leisure or physical activities improved psychological well-being. The findings also provided tangential support to other researchers who found that the meaningful use of free time during unemployment was beneficial to several facets of mental health such as happiness and psychological well-being (Evans & Haworth, 1991). The results also supported Bond and Feather (1988) and Winefield et al (1992) who reported that purposeful structured activity could reduce a wide range of negative affective states in the general population.

Previous research in relation to the effect of meaningful activity on health has focussed primarily on mental health outcomes, and any direct associations between meaningful activity and physical health have not been widely reported. Furthermore, those studies did not investigate the mediating effect of boredom in the relationship between meaningful activity and health. In attending to those aspects in the current study, it has been shown that meaningful free time activity directly and indirectly affected the health of a sample representative of the general Australian male population. Meaningful activity appeared to be necessary for the maintenance of mental health and a reduction in physical symptoms by

reducing boredom during free time, whereas lower levels of meaningful activity during unstructured time directly impaired general physical functioning. The negative impact of lower levels of meaningful activity on men's physical health could not be attributed to differences in feelings of boredom, loneliness, or interest, or baseline health, family medical history, employment status, other social role factors, unhealthy lifestyle behaviours, or time spent in leisure activities. Essentially, the present findings indicated that men who were able to sustain meaningful activity during free time might be able to achieve physical health benefits during the use of free time despite their levels of alcohol and tobacco use, physical activity, and other risk factors for morbidity and mortality.

The mechanisms through which meaningful activity may improve health are not fully understood. Ryff and Singer (1998) suggested that having a purpose or meaningful activity contributes to physical health through diverse and interactive physiological mechanisms, which include optimal allostasis, immune competence, and cerebral activation asymmetry. Allostasis is defined as "stability through change" (Sterling & Eyer, 1988, p. 638), and emphasises the body's ability to physiologically adjust and adapt to fluctuating environmental demands. Impaired allostasis or allostasis load may directly compromise the immune system by impairing normal neuroendocrine function or indirectly via decreased cerebral activation arising from negative affect. It may also interfere with cardiovascular performance, and over time, wear and tear on these physiological systems may increase vulnerability to infectious diseases, viruses, organ system breakdown, and other disorders (Ryff & Singer, 1998). These hypotheses have largely remained in the area of existentialism and have not widely been empirically validated (Erikson, 1959; Frankl, 1969; Maslow, 1955). The SF-12 was designed to measure a person's current level of social functioning and social role limitations (Ware et al., 1996), which may be an indication of the degree to which a person adapts to his or her environment. Thus, the current results provide some empirical support for the idea that the inability to sustain meaningful activity during unstructured may directly impair men's abilities to cope with the daily demands of social roles.

It is possible that meaningful activity during free time is indirectly related to physical health via its effect on mental health, as symptoms of physical and mental ill-health are known to affect mortality and each other (Bruce & Leaf, 1989; Bruce et al., 1994; Jorm et al., 1991; Murphy et al., 1988; Rabins et al., 1985). This hypothesis could not be tested in the current

study, as all items on the mental health component summary scale were the same as the items on the physical health summary scale. Entering both scales in a regression equation would have resulted in problems of statistical singularity (Tabachnick & Fidell, 2001). However, the correlational data showed that there was no relationship between meaningful activity during free time and the mental health summary scale ($r = .00$); hence mediator pathways were not present (Baron & Kenny, 1986).

The strong direct effects of meaningful activity on physical health, after adjusting for 19 important mortality risk factors, including time spent in leisure activities, may explain why time spent in passive leisure and time spent in social activities were not significantly related to any health measure in the current study. The lack of meaning associated with those leisure activities may be superordinate to behaviour in the relationship between a sedentary lifestyle and mortality risk. These results supported the findings of Waters and Moore (2002) that perceptions of time were more important to health than the actual uses of time. The quantity of, and frequency with which men engage in television viewing, suggests that a decline in meaningful activity during free time may be a daily experience for many men. A daily dose of prolonged negative affect, repeated over months, years, and decades, may gradually wear down the body's physiological resilience, which may culminate in autoimmune system disorders and progressive ailments such as cardiovascular disease and cancer (Ryff & Singer, 1998).

These data may also help to explain why television viewing is associated with negative affect and negative cognitive states (Kubey & Csikszentmihalyi, 1990; Massimini & Carli, 1988; Winefield et al., 1992), and why it predicts risk factors for heart disease even after controlling for fitness and activity levels and time spent exercising (Cameron et al., 2003; Hu, 2003; Hu et al., 2001; Jakes et al., 2003; Kronenberg et al., 2000; Tucker & Bagwell, 1991; Tucker & Friedman, 1989). Research has consistently shown that in comparison to women, men spend more time in free time activities, particularly watching television. Therefore, a lack of meaningful activity during unstructured time might be fundamental in explaining men's higher risk of mortality relative to women. The results of the current study also showed that unmarried men rated free time as less meaningful than married men. Thus, meaningful activity during free time may be a variable worth considering during the investigation of the factor(s) that may equalise the marital status difference in mortality.

Consistent with the hypothesis, the results of the current study showed that increased time spent in active leisure provides physical health benefits for men. These results were congruent with findings reported from leisure, health, and fitness surveys, and from epidemiological studies (Bauman & Owen, 1999; Castles, 1994; Iso-Ahola, 1994; Mensink et al., 1999; Roberts et al., 1989; Ross & Hayes, 1988; Stewart et al., 1993; Thorlindsson et al., 1990; Wingard, 1982; Zuzanek & Mannell, 1998; Zuzanek et al., 1998). The finding that increased active leisure improved physical health regardless of the level of alcohol and tobacco use, time spent in passive leisure, boredom, loneliness, and meaningful free time activity, and other mortality risk factors is consistent with the notion that physical activity is the superior health promoting behaviour (Chave et al., 1978; Hedblad et al., 1997; Hein et al., 1993; Morris et al., 1980; Paffenbarger et al., 1986; Shaper et al., 1991; Stewart et al., 1993; Thorlindsson et al., 1990; Wannamethee et al., 2001).

Regular physical activity helps to maintain fitness, reduces weight and body fat, leads to a reduction in a sedentary lifestyle, and reduces cholesterol and elevated blood pressure (Bauman & Owen, 1999; Blair et al., 1985; Epstein & Wing, 1980; NHMRC, 1997; US Department of Health and Human Services, 1996). However, it is unclear from the current findings whether it was the level of physical activity that was important to health. The average time that men spent in active leisure was just below 30 minutes per day, which is sufficient to generate health benefits (Castles, 1994). However, the standard deviation was approximately 25 minutes per day, and this coding category considered activities other than physical exercise, such as outdoor activities, games, hobbies, holidays, and arts and crafts. Therefore, it seems doubtful that it was the physicality of the activities that sustained the health of the men in this study. It is more likely the structured nature of the activities that promoted health. This conclusion is consistent with the findings from the unemployment literature that any structured activity promoted health (Evans & Haworth, 1991; Hepworth, 1980; Swinburne, 1981; Warr, 1984). These results suggest that increasing general structured activity during leisure is a worthwhile component of a healthy lifestyle for the general male population beyond the beneficial effects believed to be generated by regular physical exercise.

The results of the current study also showed that meaningful activity during free time predicted general physical health in the presence of increased active leisure. These findings supported the research of Bond and Feather (1988), and Evans and Haworth (1991) who reported that although general structured activity sustained health, the meaningful use of structured time provided optimal benefits to health. Furthermore, meaningful activity during free time and increased time spent in active leisure were significantly associated with better health even after the effects of 18 other important variables were controlled. Consistent with the findings of Jackson (1999), the meaningful and structured use of time may be a stronger predictor of health than sociodemographic and behavioural factors. These data suggest that in the relationship between lifestyle and health, the conflation of meaningful activity during free time and structured active leisure may actually be superordinate not only to abstinence from alcohol and tobacco use, but also to leisure time physical activity.

Contrary to predictions, increased time spent in active leisure was not significantly related to fewer physical symptoms or better mental health. These results were similar to the findings of Zuzanek and Mannell (1998), but were inconsistent with other studies (Hull, 1990; Hayes & Ross, 1986; Montelpare & Kanters, 1994; Pondé & Santana, 2000; Stephens, 1988). The results of the current study showed that increased active leisure was associated with an increase in loneliness and episodes of intoxication. Any beneficial effects of active leisure on symptomatology and mental health may have been offset by those factors. The near significant result that showed that increased active leisure only predicted fewer physical symptoms when the effects of loneliness during structured time and episodes of intoxication were adjusted for attests to this notion. These data suggest that although leisure time physical activity may counteract some tobacco-induced health effects (Hedblad et al., 1997) active leisure may not be sufficiently potent to counteract the negative health effects of loneliness and heavy drinking on mental health and physical symptom reporting. Thus, engaging in active leisure because of loneliness may not be a healthy option for Australian men. The moderating effects of loneliness and intoxication on the relationship between active leisure and physical symptom reporting may explain, in part, why some prior studies found that active leisure did not improve self-rated health linearly (Bird & Fremont, 1991; House et al., 1982).

Governmental health bodies specifically target physical activity in their health and recreation education campaigns (AIHW, 2000). Although campaigns designed to encourage men to increase physical activity levels may be succeeding in changing men's behaviour, the results of the current study indicate that it may be at the cost of their mental health. Future campaigns may need to consider introducing concepts of goal-directed activity, rather than just focusing on physical exercise. Other active pursuits such as hobbies or community-based activities may be more successful alternatives. For example, the Australian Government has committed \$547 million to Australian sport over four years as part of the Backing Australia's Sporting Ability – A *More Active Australia* policy (Australian Sports Commission, 2001). The Heart Foundation of Australia has also issued its Physical Activity Policy (Bauman et al., 2001). However, neither policy recognises the motivational or psychological barriers to participation, nor the health damaging behaviours and negative affect that may accompany physical activity. The latter policy acknowledges that developing a sense of community and building social support via clubs and organisations may be important in increasing physical activity, however, sporting facilities, parks, and cycling tracks are given prominence in urban planning and environmental policy development. No reference is made to increasing activity by facilitating regular community involvement in shared tasks. In addition, the former policy is targeted towards high performance and elite athletes. This type of commitment and training often severs elite athletes from meaningful relationships and facilitates a focus on only one meaningful life domain.

The Australian Bureau of Statistics has developed an information model for culture and leisure participation that emphasises cultural, social, environmental, financial, and human resources required for people's participation and it also acknowledges that people's beliefs, values, and leisure wants and needs strongly influence and motivate behaviour (Trewin, 2003). This framework is largely based on activities that people currently do during leisure, and emphasises culture, arts, and sports participation, rather than focusing on encouraging people to integrate leisure into a wider set of meaningful and purposeful life goals. Although men may feel that their physical health will suffer if they discontinued exercise or competitive sport, this is simply not true. The current and other research have shown that those types of meaningful 'work-like' activities are directly predictive of increased health benefits, even at the moderate level (Carlson, Seeman, & Fried, 2000; Haworth & Ducker, 1991; Luoh & Herzog, 2002; Winefield et al., 1992).

The effects of active leisure, meaningful activity, boredom, and loneliness on health observed in the current study may be a result of selection as well as causation. Less healthy people may spend less time in active leisure due to physical limitations or disability. Being physically inactive and unhealthy may lead to social isolation and feelings of loneliness and boredom. However, the selection explanation received little support. The associations between the predictor variables and health remained significant after controlling for current health status and family medical history.

12.5.5 Alcohol and tobacco use and health

Although the effects of tobacco and alcohol use on health were not related to the hypotheses under investigation in the current study, the results showed that when all the variables had been included in the analyses, total weekly alcohol consumption, weekly episodes of intoxication, and current and former smoking status did not significantly predict general physical or mental health or physical symptomatology. These findings suggest that when all known risk factors for men's mortality are adjusted for each other, variations in the amount of alcohol consumed, the number of binge drinking episodes, and current and former tobacco use may not be important independent predictors of self-rated health. The lack of a significant negative relationship between alcohol use and health was incongruent with the literature that indicates the regular and heavy use of alcohol indirectly and independently increases the risk of mortality (AIHW, 2000; Blot, 1992; Department of Human Services and Health, 1994; d'Espaignet, 1993; English et al., 1995; Hillbom & Juvela, 1996; National Institute on Alcohol Abuse and Alcoholism, 1998). The finding was similar to Kunz and Graham (1998) who found no relationship between alcohol use and self-reported health. These findings may indicate that self-rated health is a poor predictor of alcohol and tobacco related mortality. However, the small tolerances reported during the regression analysis for the alcohol consumption variables showed that they shared a large amount of variance with other variables in the equation (Pedhazur, 1997; Tabachnick & Fidell, 2001). This finding suggests that any variations between men due to alcohol consumption levels may have been accounted for by other risk factors in the study.

The results of the study also showed that near significant negative associations emerged between weekly episodes of intoxication and mental health and physical symptomatology

that were subsequently reduced to non-significance when boredom during free time or loneliness during structured time were entered into each equation. These findings suggest that men who more frequently became intoxicated may have experienced poorer mental health and an increase in physical symptomatology relative to other drinkers because they were lonelier during structured time and more bored during free time. These data imply that although measures of heavy drinking occasions in alcohol studies may be more predictive of health outcomes than overall alcohol consumption measures (Midanik et al., 1996; Room et al., 1995; Single & Wortley, 1993; Stockwell et al., 1996), the subjective aspects of men's time use may be more important than alcohol use in the relationship between unhealthy leisure lifestyles and health.

The lack of a significant relationship between current and former smoking status and health was consistent with the age-adjusted results of the Canada Health Survey (Statistics Canada, 1981), but were inconsistent with the findings of Australian health surveys (AIHW, 1996b; d'Espaignet, 1993; English et al., 1995; Mathers, 1994a; 1994b; McLennan, 1997) and mortality studies (Blot, 1992; Patten et al., 1996; Peto et al., 1992; Rehm et al., 1993). Despite claims that tobacco use is the biggest and most preventable killer in developed countries (de Looper & Bhatia, 1998), very few studies have statistically controlled for the effects of all known confounding variables, and measures of heavy drinking are infrequently included. The current study controlled for all factors known to be associated with the relationship between tobacco use and mortality, including measures of weekly episodes of intoxication. Moreover, evidence was found during the current study that loneliness and boredom co-occurred with men's alcohol use, and alcohol use co-occurred with tobacco use. Thus, any increased mortality risk associated with tobacco use may be accounted for by other risk factors, particularly by the co-occurrence of alcohol consumption, loneliness during structured time, and boredom during free time. Although the results may need to be validated, they do support the contention that any independent risk of tobacco use on mortality may be negligible. In other words, loneliness during structured time and boredom during free time may be more important to men's morbidity and mortality than the health risk behaviours traditionally believed to be the more proximate causes of premature death in developed countries. Thus, tobacco and alcohol use may just form part of an unhealthy leisure syndrome (Brandon et al., 1986; Green & Harari, 1992; Jenks, 1991; Jessor et al., 1991; Shiffman, 1982; Shoenborn & Benson, 1988; Sobell et al., 1995; Wichelow et al., 1988).

CHAPTER 13

GENERAL DISCUSSION AND CONCLUSION

Men's health is paradoxical. In developed countries, men are generally healthier than women, but they suffer more chronic conditions, they die nearly six years younger, and have higher mortality rates for all leading causes of death, especially from cardiovascular disease, cancer, accidents, and suicide. Men's morbidity and mortality vary with age and marital status. Younger men have the highest rates of accidents, injuries, mental disorders, and suicide. Older men report poorer self-rated health and suffer higher rates of chronic conditions (ABS, 1991; AIHW, 1999a; 2000). In comparison to married men, unmarried men report poorer physical and mental health and have higher mortality rates (Booth & Amato, 1991; Gerstel et al., 1985; Joung et al., 1997; Mathers, 1994a; Wyke & Ford, 1992). Men's socioeconomic status, biological health risk, and parental status moderate the relationships between marital status, age, and morbidity and mortality (d'Espaignet, 1993; Mathers, 1994a; Rogers, 1995; Ross & Mirowsky, 1995).

Epidemiological research has shown that men's lifestyle behaviours are the major causes of their excess mortality and premature death. Specifically, more than women, men are physically inactive and use larger amounts of alcohol and tobacco. These unhealthy behaviours are also greater for younger and unmarried men. Physical inactivity and tobacco and alcohol use frequently co-occur among men and they are independently and synergistically linked to the leading causes of death among men (de Looper & Bhatia, 1998; English et al., 1995; Mathers, 1994a; 1994b; Peto et al., 1992; Wingard, 1982). However, the relationship between unhealthy lifestyles and suicide is not clear. Evidence has emerged to indicate that leisure time physical inactivity may be the primary determinant of morbidity and premature mortality, and a physically active leisure lifestyle may counteract the adverse health effects of other unhealthy behaviours (Chave et al., 1978; Hedblad et al., 1997; Hein et al., 1993; Morris et al., 1980; Paffenbarger et al., 1986; Shaper et al., 1991; Stewart et al., 1993; Wannamethee et al., 2001). However, in combination with biological and social factors, unhealthy lifestyle behaviours do not equalise the sex and marital status mortality differentials (Kaplan et al., 1987; Mathers, 1994a; Verbrugge, 1989; Wingard et al., 1983).

These data highlight that a research paradigm that focuses solely on individual-based risk factors is inadequate. Of course, epidemiological findings have relevance to any individual in terms of changing his or her behaviour, such as exercising more, and smoking and drinking less. However, the missing factor may be knowledge of the conditions under which the behaviours are developed and maintained. This invited the question as to why men are more likely than women, and younger and unmarried men more likely than older and married men to engage in behaviours that increase their risk of disease, injury, and death. Historically, theorists and researchers have argued that unhealthy behaviours are just what males are socialised to do (McCreary, Newcomb, & Sadava, 1999). Other discourse focuses on biological differences in risk taking personality dispositions (Zuckerman, 1979). These frameworks largely attribute the blame to biology and to the individual. They take the focus from the broader social conditions under which people live. A focus on biological sex as the explanatory variable fails to address within sex differences as well as between sex differences. For example, men's health disadvantage also differs according to age and marital status. Although age is often included in mortality studies, it is invariably taken for granted as a factor that affects health via the normal ageing process (Macintyre, 1986). The inverse relationships between age and unhealthy behaviours and mental illness suggest that biology alone cannot explain all the associations between age and morbidity and mortality.

In studying the marital status determinants of health, a concentration on psychosocial factors such as social support (Berkman & Syme, 1979; Blazer, 1982; Eng et al., 2002; House et al., 1988; Kawachi et al., 1996; Reynolds & Kaplan, 1990; Rozanski et al., 1999; Seeman, 1996; 2000; Seeman et al., 1987; Vogt et al., 1992) and social control (Anson, 1989; Umberson, 1987; 1992) has been observed. However, these cognitive or emotional characteristics appear to influence health and mortality via healthy and unhealthy lifestyle behaviours and the presence of a spouse, close friends and relatives, and community involvement (Berkman & Syme, 1979; Broman, 1993; Härtel et al., 1988; House et al., 1982; Huddleston & Hawkings, 1991; Kawachi et al., 1996; Tucker et al., 1999; Unger et al., 1999; Welin et al., 1985). The research has failed to add any knowledge to explain how the psychosocial environment or other people may shape behaviour. Moreover, an adherence to these frameworks may create or perpetuate an assumption that social factors or influences on unhealthy lifestyles and health operate only during periods of stress (Macintyre, 1986). However, men's unhealthy lifestyles, particularly physical inactivity and alcohol use, are

manifested during a variety of social and leisure settings, and are more often engaged in for various reasons other than for stress-coping (Holyfield et al., 1995; Kunz & Graham, 1996; O'Callaghan & Callan, 1992; Single & Wortley, 1993; Wilks & Callan, 1990). Even if the stress-moderating hypothesis had received unequivocal empirical support, it would still fail to explain why men engage in unhealthy lifestyles during periods of stress more than women.

Few epidemiological studies or health surveys have systematically examined all factors that are known to influence men's health and mortality or explored any inter-relations among them. Age and sex may be biologically determined, but their physiological aspects convey very little about their cultural meaning. In developed countries, age and sex exist within a social hierarchy and these factors often determine one's access to resources, status, and rights through a complex and dynamic set of interdependent relationships with social institutions and other people (Link & Phelan, 1995; Macintyre, 1986). Similarly, marital, parental, and socioeconomic statuses all have significance within any given culture, and their meanings may be determined upon sex and age. Through a complex set of social and gender relations, those factors combine and differentially affect leisure behaviour, morbidity, and mortality. One example is the robust findings that more than women, younger unmarried men consume the largest proportion of their total alcohol intake at home and at pubs, bars, and taverns. This behaviour is more directly harmful to men than women (Holyfield et al., 1995; Kunz & Graham, 1997; Single & Wortley, 1993). Sex, age, and marital status also affect sedentary leisure behaviours (ABS, 1992a; 1997c; Bird & Fremont, 1991; Cutler, 1990; Darcy & Veal, 1995; Frederick, 1995; Gershuny, 2000; Robinson & Godbey, 1999; Salmon et al., 2003). Biology alone or socialisation processes cannot explain how people differ in the leisure choices they make. Thus, there may be one or more social factors that are disadvantageous for men during leisure time that are differentially distributed among men that may account for the sex and marital status differences in mortality.

In the wake of repeated calls from scholars in the field of men's health (Connell, 1995; Courtenay & Keeling, 2000; Hanmer, 1990; Paulsen, 1999; Schofield et al., 2000), these issues prompted a social psychological gender-relations analysis of men's daily lives. A gender relation-analysis of men's health focussed on men's relationships with women and how their social environments may have helped to shape their leisure behaviour, health, and illnesses (Schofield et al., 2000). Several aims were to uncover any social psychological advantages

and disadvantages that men may have received from a patriarchal society and to examine whether those factors differed between groups of men. The research also sought to identify whether those factors were related to an imprudent use of leisure time that predicted an increase in mortality risk. Specifically, it was hypothesised that due to an over-reliance on work and family to define masculinity in patriarchal societies, free time would not sustain meaningful activity to the same extent as activities conducted during work and family time. It was further predicted that boredom during free time would arise when a lack of meaningful activity constrained the ability to regulate interest and to overcome loneliness to achieve optimal arousal during unstructured free time. Leisure boredom, in turn, was expected to lead to a leisure lifestyle characterised by prolonged time in passive leisure and social activities, and alcohol consumption was more likely to occur during these leisure activities than during active leisure pursuits. The inability to reduce boredom during free time was hypothesised to predict an increase in mortality risk after controlling for known risk factors. Marital status and age differences in boredom were expected to respectively influence the marital status difference in mortality risk and the age difference in mental health. The findings contained in this thesis partially supported the relationships hypothesised to exist in the model, as diagrammed in Figure 11.

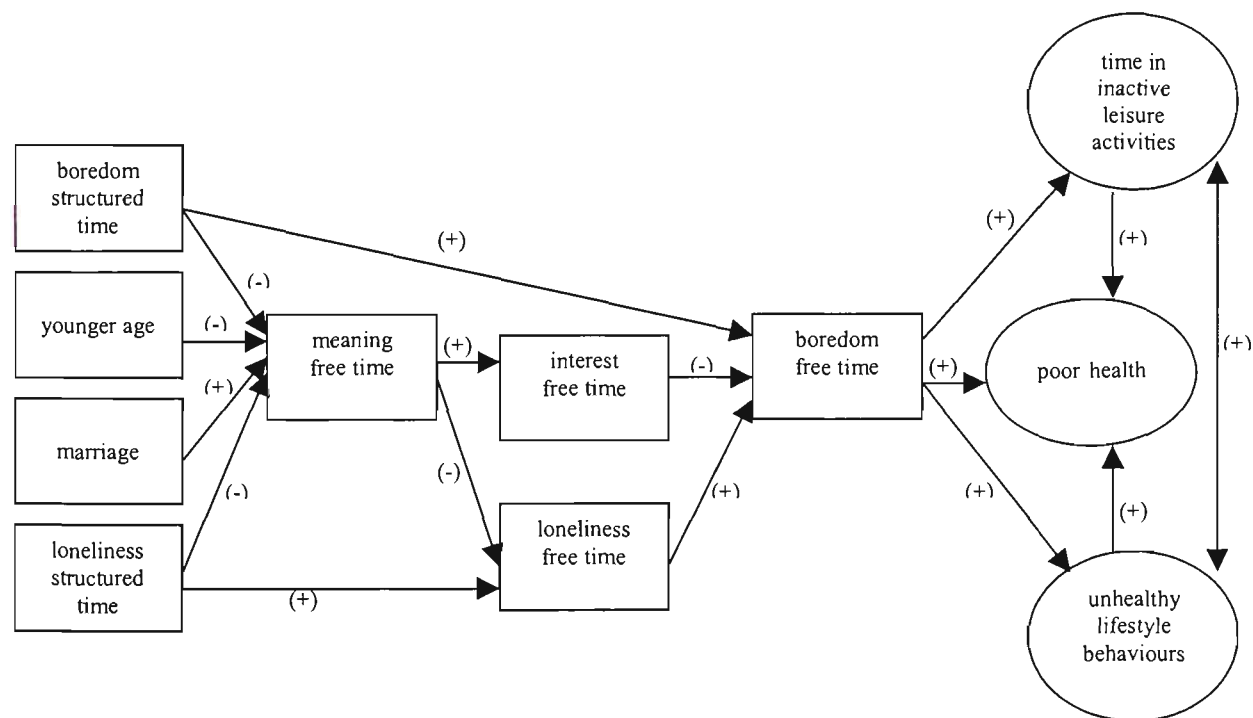


Figure 11
The Causal Model Predicting Boredom during Free Time and the Hypothesised Relationships between Boredom during Free Time, Inactive Leisure Time Use, Unhealthy Lifestyle Behaviours, and Poor Health

A critical analysis of free time was incongruent with the notion that leisure is freely chosen, intrinsically motivating, and fundamental to an improvement in the quality of people's lives (Csikszentmihalyi & LeFevre, 1989; Graef et al., 1983; Iso-Ahola, 1979; 1980; 1997; Neulinger, 1981; Roberts, 1981). Nevertheless, an investigation of the subjective meanings and experience of leisure was overdue (Kubey & Csikszentmihalyi, 1990; Zuzanek, 1991). The research design and analytic techniques employed in this thesis have facilitated an understanding of men's daily activities and have shown that the lives of men and women are inextricably linked and these gender relations appeared to be highly involved in men's everyday cognitions, emotions, motivation, and unhealthy leisure behaviours. It was also shown that the gendered division of labour in the private and public domains might make a contribution to the sex and marital status differentials in mortality as well as age differences in mental health and suicide. Specifically, it has been shown that, for men, there may be psychological disadvantages associated with the gendered division of labour that may have negative behavioural and health consequences during leisure time. The analyses conducted in this thesis have identified how the avoidance of housework produces excess free time for men. The inability to structure that time with goal directed and meaningful projects may be more important to men's morbidity and mortality than the risk factors traditionally believed to be the more proximal causes of premature death. Long before television infiltrated the homes of people in most nations, and before the health and social costs of alcohol and physical inactivity were well known, Park (1927) suggested, "It is the improvident use of our leisure, I suspect, that the greatest wastes of American life occur" (p. 675). The analyses contained in this thesis indicate that he may have been correct. It seems that for many Australian men, leisure may pose a significant health hazard.

The current study showed that free time activities did not sustain meaningful activity to the same extent as activities that were conducted through men's relationships with traditional social structures such as work, study, and the family. Free time activities were more meaningful for married men than for unmarried men (Table 17). A reduction in meaningful free time activity, rather than an increase in boredom during free time, was strongly and significantly associated with a sedentary leisure lifestyle characterised by prolonged periods of time engaged in unhealthy behaviours, such as watching television (Table 25).

The symbolic representation of gender may be reflected in those ratings and behavioural patterns. Specifically, in the absence of any structure guiding behaviour during free time, passive leisure may have been a resource that men used to 'produce gender' (Berk, 1985; West & Zimmerman, 1987). This may have been achieved through the enactment of avoiding housework, which symbolises women's subordination and men's domination, supremacy, and masculinity. For men, leisure may symbolise privilege and it may also be a symbolic reaffirmation of status and power (Deem, 1987; Hartmann, 1981).

Berk (1985) pointed out that the process of 'doing gender' does not occur at a conscious level. On the contrary, it operates "without much notice being taken" (Berk, 1985, p. 207). Moreover, not all housework is 'bad' and to be avoided. For both men and women, housework may be symbolic of love and care, but in unequal ways (DeVault, 1991). For women, housework represents women's 'natural' desires to care for husbands and family members, whereas for men, increased participation represents doing a favour for wives (DeVault, 1991). The patterns of time use in the current thesis support this notion. Married men and older men spent more time in domestic work and childcare activities than their younger and unmarried counterparts (Tables 7 and 8). During men's parenting and older years, housework may carry the meaning of caring rather than subordination, and men willingly 'help out' as a favour to their wives. Domestic work, particularly home and car maintenance activities may take on different meanings for men as they age. These types of activities may come to symbolise success, wealth, and power as the size, quantity, and the value of material possessions increase.

Similarly, men may not perceive passive leisure as bad. There may be gendered expectations for passive leisure activities, especially watching television. Men may believe they have the right to rest and relax from paid work (Deem, 1987; Dempsey, 1990). Men may also believe that television is informative (Winick, 1988), or a way to spend time with wives (Finucane & Horvath, 2000). However, the analyses conducted in this thesis suggest that whatever conscious or unconscious cognitive strategies men may use to sustain the gendered division of labour, they are healthfully irrational. Although men's non-work time reflected leisure priorities, perceiving the majority of free time as lacking in meaning directly worsened health regardless of any benefits that may have been derived from having more of it (Table 40). This thesis has directed attention to the personal, emotional, and health costs to men as a

consequence of the ways in which housework and leisure is disproportionately divided between men and women.

A gender perspective that highlights the symbolic construction of housework as ‘women’s work’ and leisure as ‘men’s privilege’ (Deem, 1987; Delphy & Leonard, 1992) may explain why women retain the responsibility for domestic work, regardless of their age, employment, marital or parental statuses. It may also help to explain why leisure is a male domain and why men are so resistant to change (Segal, 1990).

The results also showed that men were more bored and lonelier during work and study than during other daily activities (Table 11). The dominant or hegemonic form of masculinity that embodies success, competition, aggression, power, and heterosexuality are probably implicated in those high scores during contracted time. Relative to women, men are more likely to work in hierarchically structured institutions (Schofield et al., 2000), to be rewarded for working longer hours (Pocock, 2003), and to be denied flexible working hours and paid family leave benefits. Although the gendered division of labour may be the major factor influencing men’s greater incomes, status, and power relative to women, it may also be the main reason why men have less discretion than women to leave the workforce, or change careers, or to combine work and family. These gender and social relations appeared to be key contributors to men’s poor health, both directly (Tables 41 and 42), and indirectly, via heavy alcohol consumption in a variety of leisure settings (Tables 33, 34, and 37).

The analyses conducted in this thesis showed how the disadvantages of gender relations became embodied as boredom during men’s free time. Thus, boredom during free time was conceptualised as a negative affective state that occurred when the gendered division of labour constrained a man’s capacity to achieve optimal arousal by engaging in interest-enhancing and loneliness-reducing leisure behaviours (Figure 10). Married men were less bored during free time than unmarried men because marriage sustained meaningful free time activity. Younger men were more bored during free time than older men for factors unexplored in the current study.

Men who were most bored during free time were those who were unable to achieve optimal arousal during any type of leisure activity. For that reason, they appeared to engage in heavy

alcohol consumption across a wide range of social and leisure contexts that varied according to age (Tables 33 and 34). Loneliness during work, study, and family time combined with boredom during free time to predict those unhealthy alcohol consumption patterns (Tables 33 and 34). This thesis offered empirical evidence to suggest that alcohol consumption might be a separate gendered leisure activity choice for men to achieve optimal arousal and to reduce loneliness in the absence of any alternative meaningful structured free time activity. The findings of this study indicate that boredom and loneliness might explain why men, more than women, drink alcohol and consume large amounts of it.

It has previously been suggested that men's unhealthy behaviours are resources that they use to define themselves as 'masculine' or 'manly' (Courtenay, 2000a). While the data contained in this study support this notion, they more accurately reflect two interdependent explanations. Men may engage in unhealthy behaviours, especially alcohol use, to define their free time behaviours as masculine or manly. For other men, who find difficulty achieving optimal arousal during any 'traditional' manly leisure activity, it may be a leisure time activity in its own right that is used as a resource to fill unstructured time in a manly and masculine way. In other words, alcohol consumption may give men something to do while avoiding housework and childcare during free time when other gender producing free time resources are perceived as boring. Thus, the dominant and subordinate statuses of both sex categories may continue to be produced and reproduced. Hence, alcohol consumption and leisure may be two interdependent resources that men use to produce gender (Berk, 1985; West & Zimmerman, 1987). However, the strong and direct negative relationship between boredom during free time and physical and mental health (Tables 41 and 42) reported in this study indicate that the motivations influencing these behaviours are unhealthy.

The results of the current study have identified multiple disadvantages of men's unstructured free time for health. Passive leisure was the least meaningful free time activity that men engaged in, and lower levels of meaningful free activity directly worsened physical health, but men spent the majority of free time engaged in those activities. Meaningful active leisure improved general physical health, but men spent the least free time in those activities. Lonely men spent more time in active leisure, but the inability to overcome loneliness thwarted any positive effects of active leisure on mental health and physical symptomatology. An inability to increase interest and reduce loneliness in any leisure activity appeared to be

related to an increase in boredom during free time. Boredom during free time was associated with an increase in heavy alcohol consumption patterns and it directly worsened health.

Aspects of men's structured time use also affected their health. Men spent the majority of their time in contracted time activities (work and study), but this time was characterised by high loneliness scores. Men, especially married men, were least lonely during committed time activities (domestic and childcare activities), but they spent the least time in these activities. Higher loneliness scores during structured time were also associated with unhealthy alcohol consumption patterns and they directly predicted poorer health.

Loneliness during structured time, reduced meaningful free time activity, and boredom during free time may be three elusive risk factors that epidemiologists have been searching for to equalise the sex differential in mortality. In epidemiological analyses of sex and mortality, an increased risk for men was still observed despite adjustment for a wide range of biological and socioeconomic factors and unhealthy behaviours (Mathers, 1994a; Waldron, 1976; Wingard, 1982; Wingard et al., 1983). The analyses conducted in this thesis showed that when the effects of all of those variables were accounted for, individual variations between men in loneliness during structured time, meaningful activity during free time, and boredom during free time were strong and significant predictors of increased mortality risk. Courtenay (2000b) suggested that masculinity might be an important mediator between unhealthy lifestyles and mortality risk. Meaningful free time activity, boredom during free time, and loneliness during structured time all predicted unhealthy lifestyle behaviours, and continued to predict mortality risk after those unhealthy lifestyle behaviours were controlled. These data suggest that masculinity, operationalised as a lack of meaningful free time activity, an increase in boredom during free time, and an inability to reduce or prevent loneliness, may be important explanatory variables in the relationship between unhealthy lifestyles and mortality risk.

The gender-relations approach to men's health taken in this thesis took one step further in understanding different patterns of sex differences in gender-relations disadvantages. Previous research has consistently shown that within marriage, men fare better than women in relation to their health, and enjoy a longer life expectancy than unmarried men (Hu & Goldman, 1990; Mathers, 1994a). Married men's greater access to meaningful activity,

loneliness prevention, and a reduction in boredom during free time may exert an influence on the differences in men's and women's morbidity patterns and rates of mortality. Poor mental health, including alcohol abuse, and suicide and accidents are most prevalent among younger unmarried men (ABS, 1991; Trewin, 2003). Younger men's higher rates of boredom during free time may be highly involved in these relationships.

Although the current study differed substantially from epidemiological studies in terms of geographic location, time period, sample size, racial differences, and the statistical analyses used, the present study considered the greatest number of risk factors, and all variables were measured using the most valid and reliable contemporary methods available. Every effort was made to include all variables currently established as risk factors for mortality. One notable exception was income, which was excluded due to excessive missing data. However, Wingard (1982) found that out of 16 known risk factors, socioeconomic status was one of two variables that failed to reach significance for either sex. Blakely, Atkinson, and O'Dea (2003) found no association between income and subsequent all-cause mortality among 1.4 million New Zealand residents. The effects of income inequality on morbidity and mortality vary by sex and marital status, and are more detrimental to health for women than for men (Joung et al., 1997). For men, socioeconomic status affects unhealthy lifestyle behaviours rather than health directly (Broman, 1993). There is also a selection effect of health on socioeconomic status. Men who experience ill-health are more likely than healthy men to be unemployed, or to work in part-time jobs that are poorly paid (Wingard, 1984). Those effects were controlled for by adjusting for prior medical history, education status and occupation status in each equation (Wingard, 1984).

Other risk factors for premature mortality that differ between men and women are dietary intake and body weight. However, in Australia, the diet-related diseases of greatest importance to health are those related to the over-consumption of food and inactivity (Lester, 1994; AIHW, 2002a). In multivariate analyses, being overweight or obese did not significantly increase men's risk of mortality (Wingard, 1982; Wingard et al., 1983), nor was body weight associated with psychological well-being (Hayes & Ross, 1986). A person's weight is largely determined by physical activity level (Blair et al., 1985; Epstein & Wing, 1980; NHMRC, 1997), which was controlled for by including time spent in both active leisure and passive leisure in the regression equations.

The current study has combined empirical data with theoretical interpretation in an attempt to move beyond biology as an explanation for men's higher mortality risk. Analysing men, rather than comparing them with women, in the social context of their leisure time, has provided a basis to understanding the meaning of leisure among men. The investigations reported in this thesis demonstrate that meaningful activity during unstructured time is a theoretical concept that has scientific and practical value in the disciplines of leisure research, alcohol and tobacco epidemiology, medical and disease epidemiology, and psychology. Its integration into a theoretical framework has enabled the cohesion of knowledge from each of these areas to provide a parsimonious explanation for a wide range of complex social and health issues, using a single sophisticated research method.

Limitations in sampling and low response rates might restrict the generality of the findings and introduce potential sources of bias in the alcohol consumption and self-rated health data. Participants who responded to the advertising campaign may have been those men who were experiencing poor health or were heavy drinkers and/or were concerned about the effects of heavy drinking on their health. The extent to which the topic under study influences alcohol and health survey participation and/or survey responses of Australian men is virtually unknown and appears worthy of future study to improve the validity of survey data. To determine the extent of representation in the present sample with respect to health, this group was compared to Australian men who were included in the random sample of the Australian Mental Health and Wellbeing Survey (ABS, 1998).

Mean scores on the SF-12 PCS in this study (52.60) were slightly higher than the mean score on the SF-12 PCS for men in the Australian Mental Health and Wellbeing Survey (49.40). This suggests that this sample of men were slightly physically healthier than the general Australian male population. However, the sample of men in this study had poorer mental health as measured by the SF-12 MCS ($M = 48.98$) than the general Australian male population ($M = 52.62$). A higher proportion of men in this sample (16.7%) reported a history of depression in comparison to 3.4% of the general Australian male population who reported experiencing depression in the 12 months prior to the Australian Mental Health and Wellbeing Survey (ABS, 1998). Therefore, there may have been an over-representation of men in this sample with a current or history of mental illness. In addition, the relationships between boredom during free time and alcohol consumption and health may have been

spurious if boredom is prodromal to depression. Alcohol-related disorders often co-exist with depression among men (ABS, 1998; Brown & Harris, 1978; Mirowsky & Ross, 1989; Najman, 1996). However, the association between boredom during free time and health continued to exist when prior health status was controlled, suggesting that the adverse health effects of boredom are direct.

Comparison data relating to alcohol consumption are limited, as little alcohol-related research has been conducted in Australia using the measurement method employed in the current study. Furthermore, although the Australian Institute of Health and Welfare (1999b; 2002b) routinely collects data relating to the quantity and frequency of alcohol consumption in the Australian population, mean levels of daily or weekly alcohol consumption are not reported. Comparisons were made with the results from a 1986 national probability survey of 1,187 adults in Western Australia (Blaze-Temple et al., 1988) using a prospective alcohol diary, and with quantity-frequency data from three samples of adult male drinkers in South Australia, Western Australia, and New South Wales, collected by the Australian Bureau of Statistics (1984; 1986a; 1986b). Daily alcohol consumption data collected by the ABS was expressed in millilitres. The data were converted to grams, whereby 1 millilitre of ethanol weighs 0.7893 grams, (Miller, Heather, & Hall, 1991), and multiplied by seven to arrive at an estimate of average weekly alcohol consumption.

The average weekly grams of alcohol consumed by men in this study (178.26) was slightly lower than the average amount consumed by men in Western Australia using the diary method (185.02 grams per week) (Blaze-Temple et al., 1988) and the quantity-frequency method (36.3 millilitres per day or 200.56 grams per week) (ABS, 1986a). It was also lower than the average amount consumed by men in South Australia (33.1 millilitres per day or 182.88 grams per week) (ABS, 1984) and in New South Wales (34.0 millilitres per day or 187.86 grams per week) (ABS, 1986b). The under-reporting of alcohol consumption in this study may indicate an over-representation of heavy drinkers as previous research has found that heavier drinkers tend to under-report their levels of consumption to a greater extent than more moderate drinkers (Poikolainen, 1985). These men may have been reticent about admitting true levels of alcohol consumption because of the association with health risk. Therefore, the effects of alcohol consumption on health and other key variables under investigation may have been underestimated. However, every effort was made to minimise

the under-reporting of alcohol. The most valid and reliable measure of alcohol consumption was used (Single & Wortley, 1993; 1994). Data were gathered using a self-report questionnaire that respondents sealed in an envelope and returned to the researcher. No participant was identifiable from the survey and confidentiality was assured. Furthermore, although this study yielded a lower level of alcohol consumption relative to other survey data, in practical terms, it was only an average reduction of between 0.66 and 3.2 grams of alcohol per day. One standard drink is equivalent to 10 grams of absolute alcohol (NHMRC, 1991; Turner, 1990). Therefore, although the lower level of alcohol consumption reported in this study is suggestive of under-reporting, the difference does not appear to be practically important.

Notwithstanding these sampling concerns, the results contained in this thesis show that boredom during free time, loneliness, and alcohol use may be major social and health issues for some Australian men. The relationships between boredom during free time and alcohol use has primarily been thought of as a health and social problem among young people. Similarly, problems associated with loneliness, and its health effects, have invariably been attributed to the younger and elderly population groups. Future research could extend this model further to include other subgroups of men, such as homosexual and unemployed men, different ethnic groups and social classes, as well as women to empirically validate the gender-relations theoretical framework.

The analyses conducted in this thesis suggest that to improve the health and longevity of men, policy leaders, health professionals, and men and women may need to work together to directly change the social conditions of men. The major problem facing the deconstruction of masculinity is that most men and boys realise the patriarchal dividends they receive by being a man in Western societies. This includes, power, status, success, personal services from women, and freedom from domestic work (Connell, 1995). The findings in this thesis dispute the logic behind those beliefs and provide evidence of several patriarchal disadvantages that men may receive, and empirical data to show how those disadvantages may be related to their quality of life and longevity.

A starting point to deconstruct masculinity is the awareness that current popular leisure activities are not interesting for many men. The experience of interest is believed to be the

strongest motivating factor for human activity and sustained performance (Sansone & Smith, 2000). This thesis has also highlighted that the struggle to reduce loneliness is also part of men's self-regulatory process during free time. It appeared that none of the leisure activities that men engaged in were as successful as alcohol consumption across a wide variety of occasions and situations in promoting interest and reducing loneliness. This may explain why alcohol consumption is so deeply entrenched in the Australian male leisure culture.

The analyses conducted in this thesis suggest that many Australian men may be experiencing a quality of leisure and quality of life crisis. Australian leisure may need to be placed on the social, political, and health agendas. Strategies may need to be set in place for the development of alternative leisure activities for the Australian male population. Mercer (1980) first highlighted that governments must identify what constitutes a "good life" (p. 22) and then act accordingly to ensure that leisure activities provide avenues to improve the quality of people's lives. This thesis has offered a possible definition of a 'good life' for men during leisure, and that may be the development of longer term, goal directed projects. At the very least, these activities may need to provide time structure and purposive activity. Best case scenario would be projects that facilitate regular contact and shared activities with other people (Schwartz & Olds, 1997). The Australian Government may need to experiment with new forms of community based leisure activities and develop strategies to encourage men to participate in those activities. De Grazia (1962) pointed out that one of the conditions for addressing the leisure needs of a nation is an economic surplus. In 2003, the Australian Government met this condition, and a large proportion of that surplus may need to be spent educating men about the negative health effects of their leisure choices and to increase community facilities and projects and men's involvement in them.

The Australian Labor Party (ALP) is developing its policies and ideas in the lead up to a federal election in the latter half of 2004. As part of that process, it has acknowledged that there may be a loneliness crisis in the community and has committed itself to counteracting the problem by ensuring that all citizens have access to organisational and community infrastructures that facilitate inclusion and cohesion (Tanner, 1999; ALP News Statements, 2004). The results of the current study have provided statistical evidence to support the Labor Party's claims that governments need to increase awareness of the inherent value of

community participation and funding to build and sustain community projects, organisations, associations, and groups.

Godbey (2003) argued that leisure skills are developed through thinking and learning and that people must plan for leisure, educate themselves about available leisure resources, and be exposed to a wide range of creative leisure possibilities. He further argued that schools are important agents in educating young people for leisure, although with its emphasis on intellectual pursuits and careers, educational policy tends to ignore leisure-seeking skills. The results in this thesis showing that free time boredom was highest among younger men support the need for early intervention among this group. School curriculums could include classes to teach boys and younger men about the health effects of masculinity and pathways to change. These classes could be coupled with the teaching of leisure-seeking skills and the development of leisure goals as well as academic and vocational goals (Godbey, 2003). The education system may need dedicated funding and policy support for this strategy. Government funding could also be made available for education programs and for the development of support and counselling organisations and networks for older men to become educated for leisure.

Considerable attention may also need to be given to the effect of television and other technological advancements that are increasingly shaping men's leisure behaviour and their health. There also appears to be a need to increase awareness of the health and social costs of alcohol use among Australian men. The community is well informed of the health effects of tobacco use. Warning messages are placed on cigarette and tobacco packaging and at sales outlets. In several Australian states, tobacco products themselves are no longer displayed at sales outlets. All forms of tobacco advertising have been banned in Australia. Awareness of the harmful and hazardous effects of television viewing and alcohol consumption may need to be increased to similar levels as tobacco use.

In Australia, the alcohol industry has almost complete self-regulation in relation to the advertising and promotion of its products (Alcohol and other Drugs Council of Australia, 2003). Alcohol is advertised and promoted in the media, on the Internet, and at sales outlets. Alcohol and sport has a strong relationship in Australia. The alcohol industry now sponsors nearly every major sporting event (Australian Drug Foundation, 2002; Alcohol and other

Drugs Council of Australia, 2003). Although the alcohol industry asserts that advertising has no effect on alcohol consumption or abuse, reviews of the evidence have concluded that alcohol advertising has a moderate contributing effect on consumption patterns as well as on attitudes towards drinking (Hill & Casswell, 2001; National Institute of Alcohol Abuse and Alcoholism, 1995). The results contained in this thesis strongly attest to the prohibition of alcohol advertising, particularly at sporting venues, and a ban on alcohol availability at sporting venues and clubrooms.

This thesis has also shown that increasing men's participation in committed time activities (housework and childcare) would have health benefits for men, especially for married men, by reducing loneliness (Tables 11, 41, and 42). Specifically, committed time activities were associated with lower loneliness scores during structured time, and lower loneliness scores during structured time directly and significantly predicted better health. The fact that men's avoidance of domestic work is deeply entrenched in their masculine identities suggests that behaviour change may be difficult. However, it could be placed on the political agenda as a longer-term goal with a view to achieving full equality between men and women in the division of labour. Awareness of its health enhancing benefits may be an effective starting point for change. However, which types of committed time activities are beneficial to Australian men's health requires further investigation. Robinson and Godbey (1999) found that housework is rated very low in terms of satisfaction by American men and women, whereas men rated activities with children and/or other family members high in terms of satisfaction and liking (Baruch & Barnett, 1986; Robinson, 1977; Robinson & Godbey, 1999). Bird and Fremont (1991) found that the time Americans spent in household labour was negatively correlated with self-rated health, but self-rated health was not related to time spent in childcare. In Australia, the absence of children following divorce worsens self-rated health and increases the risk of chronic illness (Mathers, 1994a). Thus, engaging in activities with children may have a more positive effect on health than any other committed time activities.

There may be indirect benefits to men in increasing their involvement in childcare activities. It may improve their relationships with children, and would assist with the development of children. The presence of fathers in the lives of children, particularly boys, is currently on the political agenda in Australia. The Australian Labor Party has raised concerns about an

absence of masculine male role models for Australian boys and young men. A review of the evidence by The Australia Institute suggests that men's masculinity is less important to the development of children than the emotional support, encouragement, warmth, love, and care that fathers can provide (Flood, 2003). Indeed, the results contained in this thesis suggest that the modelling of masculinist behaviours and other characteristics may not be a good thing for boys and young adult males. Instead, fathers could take on a more expressive and supportive function, rather than an instrumental role in children's lives (Bozett, 1985) while contributing their own "distinctive, but not unique" (Flood, 2003, p. ix) parenting style to increase children's exposure to a diverse range of resources and experiences. Steve Biddulph (1997) suggested five fathering essentials: (1) start early - become involved during the pregnancy and regularly spend time with toddlers without mothers present; (2) make time - reduce working hours and regularly spend time with children; (3) be demonstrative with verbal and physical affection and praise children right through childhood; (4) enjoy being with children; and (5) be a parent and not just one of the kids - become involved in all aspects of parenting including decisions, supervision, homework, and housework.

Active fathering may increase the range of emotional and social resources available to men. Fathers could share in the richness, enjoyment, and satisfaction of being involved in the raising of children. Being an involved parent may directly prevent or reduce men's loneliness and may indirectly do so by increasing family activities and community involvement. Fathering may provide men with an additional purpose in life and provide additional meaning to a wide range of activities. 'Men's rights' groups in Australia have successfully lobbied the Australian Government to revise current Family Law that espouses the presumption of maternal custody following marital breakdown. A rebuttable presumption of joint custody following family breakdown is currently being debated in the political arena. One major concern in the debate surrounding joint custody arrangements is the absence of fathers' involvement with children prior to marital breakdown (Flood, 2003). More active parenting by fathers may facilitate the future enactment of this legislation.

Men's positive involvement in childcare and/or housework may improve their relationships with women. It may facilitate more joint leisure time with wives and this may improve the quality and stability of the marital relationship (Collins, 1998; Orthner, 1975; 1976). Men report more positive affect when they spend time with their spouses and other family

members than when they are at work or alone (Baruch & Barnett, 1986; Csikszentmihalyi & Kubey, 1981; Larson et al., 1997; Sullivan, 1996). Women's perceptions of inequity in the household division of labour are related to marital unhappiness, dissatisfaction, depressive affect, and distress (Pleck, 1985; Robinson & Spitze, 1992; Ross et al., 1990). Thus, when men share housework and childcare equally, marriages, relationships, and well-being may improve for both men and women.

This thesis has important implications for health care providers who work with men. In addition to a focus on specific diseases and behaviours, men's health care should also focus on the reasons why men engage in unhealthy behaviours and the wider social structural factors that impact on those reasons. Men's health issues may need to be studied in the context of their relationships with women, other men, and workplace institutions. Meeting the health needs of men means finding them something purposeful to do during free time and improving their relationships as an alternative to watching television and consuming alcohol.

This thesis also challenges current research paradigms on men's health. There is little justification for epidemiology to conduct further examinations of the sex and marital status differences in lifestyle behaviours to explain sex and marital status differences in mortality. Future research must examine more precise hypotheses. The theoretical framework proposed in the current study provides a sound basis for further and more elaborate predictions to be generated around the ways in which gender relations impact on the objective and subjective aspects of men's free time use. However, the data in this thesis are cross-sectional and conclusions about cause and effect cannot be made. A longitudinal men's health study is needed. Since 1995, the Australian Longitudinal Study on Women's Health, a federal government initiative, has been underway. The survey is designed to run for 20 years and aims to identify causal relationships between women's health and a wide range of biological, social, psychological, behavioural and time-use factors (Lee, 2001). A longitudinal men's health study, using a similar methodology, will help to uncover the major factors that either facilitate or inhibit men's capacity to sustain meaningful free time activity. Longitudinal research will also strengthen the evidence for the relationships between boredom during free time and alcohol use, marriage and longevity, and between mortality and meaningful activity, boredom, and loneliness. This type of research is also needed to

measure the effectiveness of any gender specific risk reduction strategies and health care interventions.

The current study highlighted that although meaningful activity, boredom, and loneliness are moderately correlated, they each predicted differing behavioural and health outcomes. For example, increased loneliness during structured time predicted alcohol use and poor mental health outcomes and increased symptom reporting, but not general physical health. Boredom during free time predicted poor mental health and an increase in physical symptomatology, but it showed no significant relationship to physical health. Meaningful activity during free time predicted only general physical health. Therefore, it is important for future research to further explore the relationships between these constructs and how those affective states may impair the functioning of the human body. One question prompted by the current research is whether loneliness and boredom during free time are prodromal to depression or may form part of a 'male depressive syndrome' which is more predictive of disability and psychiatric morbidity than chronic disease and whether only meaningful structured activity predicts mortality.

There is a need to further understand the temporal patterning of health and illness. For example, boredom during free time, but not during structured time, was inimical to alcohol use and health. Loneliness during structured time, but not during free time, was the more reliable predictor of unhealthy lifestyles and poor health. The structured and meaningful nature of paid work, study, and domestic work may have been sufficient to reduce the negative health effects of boredom, but not loneliness, during those types of activities.

The findings from this thesis also have implications for future time-use research. Although this study and other research have shown that alcohol consumption most frequently occurs as part of leisure, it is seldom analysed as a leisure time activity. This is particularly the case in time-use research. For example, in the 1997 Australian Time-Use Survey (ABS, 1997e), alcohol consumption was coded as part of 'Other' Leisure and Recreation activities, which also encompassed activities such as tobacco use, relaxing, resting, doing nothing, enjoying memorabilia, and interacting with pets. Given that leisure is intertwined with alcohol, and as this study has shown, alcohol consumption may be a separate leisure activity choice for

Australian men, it may be meaningful to include it as a unique and prominent Leisure and Recreation activity type in future Australian Time-Use surveys.

The emotional dimension of behaviour has been studied frequently using the experience sampling method (ESM) (Csikszentmihalyi & Larson, 1987; Larson & Csikszentmihalyi, 1983). ESM data consist of self-reports of activity and affect collected at random times throughout the day. Participants are prompted to self-report via an electronic paging device that emits signals, or 'beeps' according to a random schedule. However, ESM data are limited as participants are beeped at infrequent intervals during the day. The electronic pagers are prone to signal failure and have a limited transmission range (Kubey & Csikszentmihalyi, 1990). ESM equipment is expensive and self-reports are lengthy. The design of the current study, which required participants to record their subjective assessments during ALL daily activities using a two-day diary, offers a more valid and reliable method for measuring the internal dimensions of behaviour and a more comprehensive and less expensive alternative to ESM.

In summary, the dominant focus in epidemiological research on individual risk factors for illness and disease overlooks the important social factors that may impact on men's mortality. Traditional feminist (and masculinist) theories, with their emphases on men's power and the patriarchal dividends men receive, tend to disregard that not all men benefit, and not all men benefit equally. This thesis challenges the assumption that having their physical, material, and emotional needs met by women is advantageous to men. On the contrary, this thesis has suggested that men's unhealthy lifestyles, particularly sedentary behaviours and heavy alcohol consumption during leisure time, may be related to men's subordination of women. Moreover, the subordination of women and men's premature risk of mortality may be linked.

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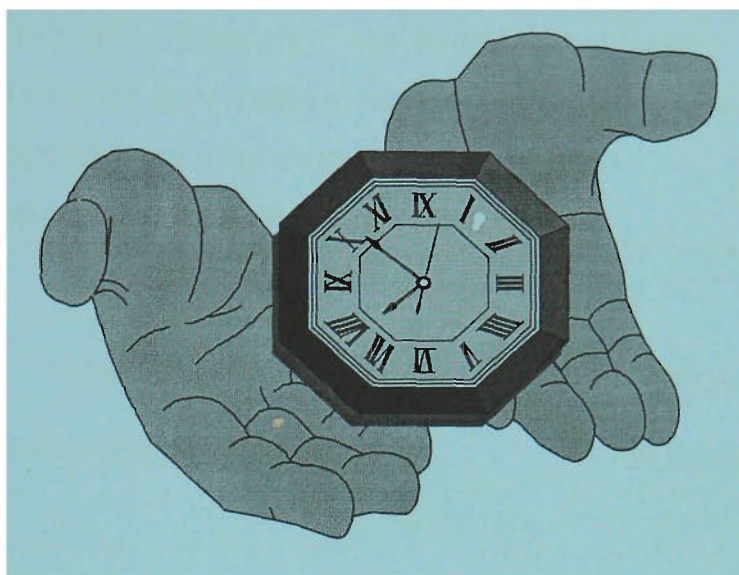
APPENDICES

APPENDIX A

TIME-USE DIARY AND OTHER MATERIALS

IN CONFIDENCE

TIME ON YOUR HANDS?



VICTORIA UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF PSYCHOLOGY

HEALTH EFFECTS OF TIME USE STUDY

DAY

DATE

DAY 1:

DAY 2:

HELP AVAILABLE:

Please complete this diary for the nominated days above.

If you have any problems with filling in this diary, please contact the researcher on ~~0408 350725~~ (Bus Hours), ~~0408 350725~~ (After Hours), or 0408 350725 (Mobile).

Victoria University of Technology

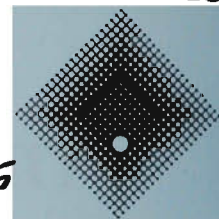
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VICTORIA UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF PSYCHOLOGY
INFORMATION SHEET
FOR "HEALTH EFFECTS OF TIME USE" STUDY

**VICTORIA
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The aim of this study is to investigate how men spend their time, how they feel about how their time is spent, and how their time usage may be related to their health.

You have been given a set of questionnaires and a time diary. The questionnaires will be completed ^{in your own time} ~~in the presence of the experimenter~~. The diary is to be taken home with you to commence recording your daily activities for the two days specified on the cover sheet. Please show something for every 30 minute interval of each day, even if it is just sleeping, or just thinking, or doing nothing in particular. If you do more than one thing at a time, please show this in the diary; there is an appropriate place for these consecutive activities. Most people find that it is better to jot things down during the day as they happen rather than trying to remember it all later on. To help with this, you may like to carry a small note pad and pen which is easier to carry around than the time diary. We understand that some things that you do may be very personal. We encourage you to include all of your activities, even if you feel that they are private. However, if you still feel uncomfortable about doing so, write down "personal". An example of how to record your activities is included at the beginning of your diary. You may find recording your activities easier if you follow this example.

All the information you provide is strictly confidential. In the Department of Psychology, all research with human subjects must be approved by the Ethics Committee of the University. This study has such approval. One aspect of the ethical procedure is to maintain the confidentiality of all information that is collected during research. No identifiable information will be released to any person or organisation. There is the possibility that the results of this study will be published in a scholarly journal. Only group results will be reported, and no individuals will be identified.

The Victoria University Human Ethics Committee also requires us to obtain the informed consent of all participants. After reading the above description, if you feel confident that you understand what the study involves, please sign the consent form. Please note, you are free to withdraw from the study at any time. If you feel uncertain about anything, ask the researcher before you begin.

Once you have completed the questionnaires and you have recorded all of your activities over two days, please seal the time diary in the self-addressed envelope and send it back to us.

As this research aims to investigate how men spend their time, there are no direct benefits to you as a participant. We rely on volunteer subjects to help us with research. The information you provide will increase our understanding of processes that may affect the health of men in the community.

Thank you very much for participating in this research.

Campuses at City,
Footscray, Melton,
St Albans, Sunbury
and Werribee

I would firstly like to ask you some background questions.

1. What is your date of birth?

.....
Day Month Year

2. In which country were you born?

.....

3. Please tick the circle which best describes your marital status.

Married ☐
De facto ☐
Separated ☐
Divorced ☐
Widowed ☐
Never married ☐

4. Which of the following groups best describes the highest education level that you have attained?

Postgraduate degree ☐
Bachelor degree ☐
Trade qualification/
apprenticeship ☐
Certificate/Diploma ☐
Secondary (Years 11 or 12) ☐
Secondary (Years 7, 8, 9,10) ☐
Other (Please specify) ☐

.....

5. What is your current occupation? That is, the job you usually work the most hours and receive income/wages from.

.....

5. What is your current salary/wages from all sources, per year, before tax?

\$

7. Do you have any dependent children living in your home?

Yes ☐ No ☐

8. If yes, how many dependent children are living in your home?

.....

1. In the last 12 months, have you had at least one drink of alcohol?

Yes ☐ No ☐

2. If you have given up drinking, please state the reason why you quit.

.....

3. Which of the following best describes your smoking status:

Current smoker ☐
Former smoker ☐
Non-smoker ☐

4. If you have given up cigarette smoking, please state the reason why you quit?

.....

5. If you have given up smoking, please state when you quit?

.....

THIS QUESTIONNAIRE ASKS YOU ABOUT YOUR DRINKING AND SMOKING HABITS WHILE DOING CERTAIN ACTIVITIES. PLEASE FILL IN EACH COLUMN ACCORDING TO THE LAST FOUR WEEKS:

	ON AVERAGE, HOW OFTEN DID YOU DO THESE ACTIVITIES? 0 = NEVER 1 = ONCE A WEEK 2 = TWICE A WEEK 3 = THREE TIMES A WEEK 4 = FOUR TIMES A WEEK 5 = FIVE TIMES A WEEK 6 = SIX TIMES A WEEK 7 = SEVEN TIMES A WEEK 8 = MORE THAN 7 TIMES A WEEK	HOW OFTEN DID YOU SMOKE DURING THESE ACTIVITIES? 0 = NEVER 1 = LESS THAN HALF THE TIME 2 = ABOUT HALF THE TIME 3 = ABOUT THREE QUARTERS OF THE TIME 4 = ALL THE TIME	AT TIMES WHEN YOU DRANK OR SMOKE, HOW MANY DRINKS DID YOU NORMALLY DRINK AND HOW MANY CIGARETTES DID YOU SMOKE? PLEASE STATE: THE NUMBER OF DRINKS, THE TYPE OF DRINK (LIGHT OR HEAVY BEER, RED/WHITE WINE, SCOTCH, BOURBON, GIN), THE SIZE OF THE GLASS, STUBBIE, BOTTLE, ETC.	PLEASE STATE: THE NUMBER OF CIGARETTES	HOW OFTEN DID YOU DRINK MORE THAN 4 DRINKS DURING THESE ACTIVITIES? 0 = NEVER 1 = LESS THAN HALF THE TIME 2 = ABOUT HALF THE TIME 3 = ABOUT THREE QUARTERS OF THE TIME 4 = ALL THE TIME	HOW OFTEN DID YOU GET DRUNK DURING THESE ACTIVITIES?
			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
SPENDING A QUIET EVENING AT HOME			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
SPENDING QUIET TIME AT HOME DURING THE DAY			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
WORK RELATED FUNCTIONS AT WORKPLACE			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO A PUB, BAR OR TAVERN			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
ATTENDING A BARBEQUE, PARTY, SOCIAL GATHERING OR WEDDING			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
HAVING FRIENDS OR RELATIVES VISIT			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
SPENDING TIME AT SOMEONE ELSE'S HOME			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO A RESTAURANT FOR AN EVENING MEAL			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
ENGAGING IN OUTDOOR OR LEISURE ACTIVITY			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
ENGAGING IN SPORTS ACTIVITY			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO A CLUB OR MEETING			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO A RESTAURANT FOR LUNCH			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO A CONCERT OR FESTIVAL			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		
GOING TO THE FOOTBALL OR OTHER SPORTING EVENT			HOW OFTEN DID YOU SMOKE?	HOW MANY CIGARETTES DID YOU SMOKE?		

This questionnaire asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

- Excellent
- Very Good
- Good
- Fair
- Poor
- ☐
- ☐
- ☐
- ☐
- ☐

2. Have you EVER been diagnosed with a medical illness, disability or mental illness or suffered from any disorder, disease or chronic pain? Yes No

If yes, please give details below:

Illness/Disorder (Specify type)	Date of diagnosis (approximately)	Degree of recovery (%)

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all
3. Moderate activities, such as moving a Table, pushing a vacuum cleaner, bowling or playing golf?
4. Climbing several flights of stairs?
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

- Yes
- No
5. Accomplished less than you would like
6. Were limited in the kind of work or other activities?
- ☐
- ☐
- ☐
- ☐

During the past four weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

- Yes
- No
7. Accomplished less than you would like
8. Didn't do work or other activities as carefully as usual?
- ☐
- ☐
- ☐
- ☐

9. During the past four weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
- Not at all

A little bit

Moderately

Quite a bit

Extremely

☐

☐

☐

☐

☐

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...

- | | All of the time | Most of the time | A good bit of the time | Some of the time | A little of the time | None of the time |
|-----------------------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| 10. Have you felt calm and peaceful? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. Did you have a lot of energy? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. Have you felt downhearted and blue? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

13. During the past four weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

- | All of the time | Most of the time | Some of the time | A little of the time | None of the time |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

14. Has your mother or father, or any brother or sister suffered from diabetes, cancer, epilepsy, high blood pressure, heart disease, stroke, mental disorder or depression, haemophilia, Huntington’s disease, polycystic kidney or any other hereditary disease, and/or died from ANY cause?
- Yes

No

☐

☐

If yes, please complete details below:

Family Member (Relationship to you)	Condition/Illness (for cancer/heart disease, specify type)	Age at onset (approximately)	Age at death (if applicable)

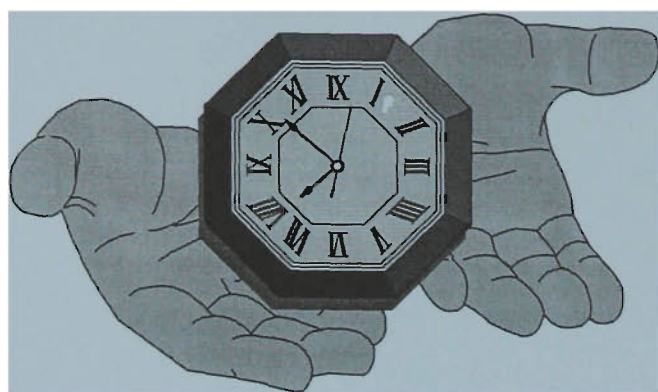
SYMPTOM LIST

Below is a list of common symptoms. Next to each common symptom below, indicate how frequently you have experienced that symptom in the past four weeks. Please do not leave any symptoms unmarked. For all items, use the following scale:

- 1 = Not at all
- 2 = A little/Slightly
- 3 = Quite a lot
- 4 = A great deal

For example, if you have been feeling slightly sick over the past four weeks, you would write the number 2 in the column next to “feeling sick” (Item number 1).

<u>Symptom</u>	<u>Frequency</u>	<u>Symptom</u>	<u>Frequency</u>
1. Feeling sick		18. Skin problems	
2. Eyes watering		19. Headache	
3. Ringing in ears		20. Cold all over	
4. Difficulty swallowing		21. Dizzy	
5. Runny nose		22. Shaking/trembling	
6. Shortness of breath		23. Feeling stiff	
7. Chest pain		24. Sore throat/cough	
8. Heart irregularity		25. Being sick	
9. Cramps		26. Tired	
10. Cannot sleep		27. Blurred vision	
11. Upset stomach		28. High temperature	
12. Indigestion/heartburn		29. Difficulty breathing	
13. Stomach pain		30. Aches all over	
14. Diarrhoea		31. Weak	
15. Constipation		32. Pains in arms/legs	
16. Swelling		33. Sprains	
17. Back pain		34. Other injury	



INSTRUCTIONS

TO FILL IN THE DIARY:

1. Write down the **main activity** that you are doing (e.g. at work, cooking, childminding, watching TV, reading).
2. Write down **everything else** you are doing at the same time (e.g. childminding, talking to parents/children, watching TV, listening to the radio, eating, smoking, drinking, talking on the phone/to a neighbour, cooking). You may be doing more than two things at once. If so, please try to list every activity you are doing.
3. Write down **where** you are doing the activities (e.g. at work, at home, at the shops, doctor, in the car, in a bus/tram/train/, backyard).
4. Write down **who else** was with you at the time of the activity (e.g. girlfriend, wife, children, friend(s), workmate(s), boss, brother, sister, or no-one).
5. Write down **why** you were doing this activity. Please indicate on a scale from 1 to 4 why you were doing the activity. If there is more than one reason, try to write down the **MAIN** reason. For example:

Write **1** if you **wanted to do the activity more than anything else**

Write **2** if you **wanted to do the activity, but wished you were doing something else**

Write **3** if you were doing the activity because **you had to**

Write **4** if you were doing the activity because **you had nothing else to do**

6. Write down how **meaningful** the activity is to you. Please indicate on a scale from 1 to 4 how meaningful you feel the activity is. For example:

Write **1** if the activity is **not meaningful** at all

Write **2** if you feel the activity is **a little bit meaningful**

Write **3** if you feel the activity is **fairly meaningful**

Write **4** if you feel the activity is **very meaningful**

7. Write down how **bored you feel** while doing the activity (ies). Please indicate on a scale from 1 to 4 how bored you feel during the activity. For example:

Write **1** if you **do not feel bored** at all

Write **2** if you feel **a little bit bored**

Write **3** if you feel **fairly bored**

Write **4** if you feel **very bored**

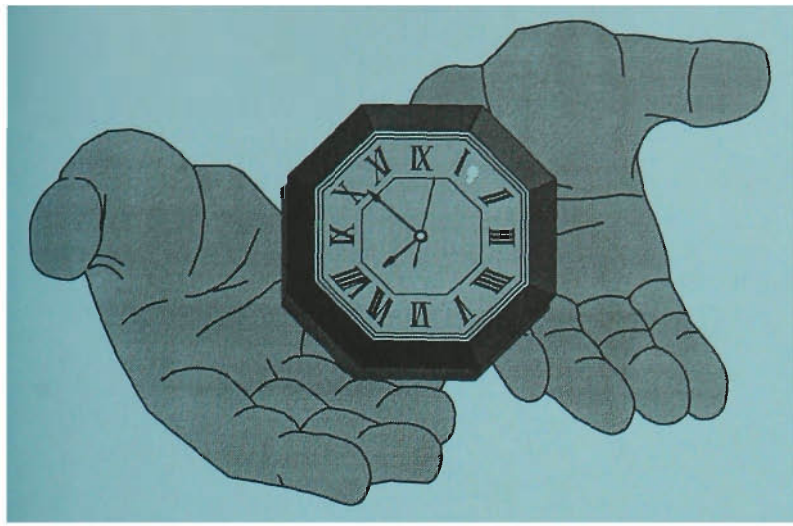
8. Write down how **lonely you feel** while doing the activity (ies). Please indicate on a scale from 1 to 4 how lonely you feel during the activity. For example:

Write **1** if you **do not feel lonely** at all

Write **2** if you feel **a little bit lonely**

Write **3** if you feel **fairly lonely**

Write **4** if you feel **very lonely**



PLEASE REMEMBER...

YOUR INFORMATION IS CONFIDENTIAL

PLEASE MAKE SURE THAT YOU:

- ➡ Read the example diary overleaf
- ➡ Begin recording your activities at Day One
- ➡ Record your activities in as much detail as possible
- ➡ Complete the diary for two days and two nights
- ➡ Complete the diary for each time period
- ➡ Answer the questions immediately following the diary for each day
- ➡ Use the space provided on the last page if you wish to add any further information or if you have any comments you would like to make

DAY ONE:

6.00 A.M. - 5.30 P.M.

WHAT WAS YOUR MAIN ACTIVITY	WHAT ELSE WERE YOU DOING AT THE SAME TIME? (eg. childminding, watching TV, eating, drinking, smoking)	WHERE WERE YOU? (eg. at work, home, on a train, in the car)	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME? (eg. No-one, wife)	WHY DID YOU DO THIS ACTIVITY? 1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do	HOW MEANINGFUL IS THE ACTIVITY? 1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful	HOW BORED DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored	HOW LONELY DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely
6.00	SLEEP	HOME	FAMILY	1	4	1	1
6.30	↓						
7.00	TOILET & SHOWER	LISTENING TO RADIO	↓	1	3	1	1
7.30	SHAVED, BRUSHED HAIR	TALKED TO PARTNER	↓	1	3	2	1
8.00	ATE BREAKFAST	TALKED TO FAMILY READ NEWSPAPER	↓	1	3	2	1
8.30	DROVE TO WORK	LISTENED TO RADIO	NO-ONE	3	3	3	2
9.00	WORKING	CIGARETTE & COFFEE	NO-ONE	4	4	1	3
9.30		TALKED TO MOTHER ON PHONE	WORKMATES	↓	↓	1	1
10.00							
10.30		ATE MORNING TEA	↓	↓	↓	2	1
11.00		CIGARETTE & COFFEE	↓	↓	↓	2	1
11.30			↓	↓	↓	↓	↓
12.00		NOTHING	↓	↓	↓	↓	↓
12.30	ATE LUNCH	READ NEWSPAPERS DRANK COFFEE SMOKED CIGARETTES	CAFETERIA	1	2	2	2
1.00	↓		NO-ONE	1	2	2	2
1.30	WORKING	NOTHING	NO-ONE	2	1	2	1
2.00	↓	MEETING	WORKMATES	3	1	2	2
2.30			↓	↓	↓	3	2
3.00			↓	↓	↓	3	2
3.30			↓	↓	↓	3	2
4.00	ATE AFTERNOON TEA	DRANK COFFEE & SMOKED CIGS.	NO-ONE	3	1	2	2
4.30	WORKING	NOTHING	↓	1	3	1	1
5.00	↓		↓	↓	↓	↓	↓
5.30			↓	↓	↓	↓	↓

WHAT WAS YOUR MAIN ACTIVITY? <small>Please record all activities even if they only lasted a few minutes</small>	WHAT ELSE WERE YOU DOING AT THE SAME TIME? <small>(eg. childminding, watching TV, eating, drinking, smoking)</small>	WHERE WERE YOU? <small>(eg. at work, home, on a train, in the car)</small>	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME? <small>(eg. No one, wife)</small>	WHY DID YOU DO THIS ACTIVITY? <small>1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do</small>	HOW MEANINGFUL IS THE ACTIVITY? <small>1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful</small>	HOW BORED DO YOU FEEL <small>1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored</small>	HOW LONELY DO YOU FEEL <small>1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely</small>
6.00 DROVE HOME	LISTENING TO RADIO	CAR	NO-ONE	1	3	2	2
6.30 WATCHED TV ↓	TALKED TO FAMILY DRANK BEER SMOKED CIGARETTES	HOME	FAMILY	4	1	2	1
7.00				1	3	1	1
7.30 PREPARED DINNER	WATCHED TV TALKED TO FAMILY			2	3	1	1
8.00 ATE DINNER ↓	DRANK WINE			1	2	1	1
8.30	TALKED TO FAMILY			1	2	1	1
9.00 WATCHED TV	SAID GOODNIGHT TO FAMILY			4	1	3	2
9.30	SMOKED CIGARETTES						
10.00	DRANK BEER						
10.30	DRANK BEER						
11.00	↓						
11.30 WENT TO BED	READ BOOK			4	3	2	1
12.00 SLEEP	NOTHING						
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WHAT WAS YOUR MAIN ACTIVITY?	WHAT ELSE WERE YOU DOING AT THE SAME TIME?	WHERE WERE YOU?	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME?	WHY DID YOU DO THIS ACTIVITY?	HOW MEANINGFUL IS THE ACTIVITY?	HOW BORED DO YOU FEEL?	HOW LONELY DO YOU FEEL?
Please record all activities even if they only lasted a few minutes	(eg. childminding, watching TV, eating, drinking, smoking)	(eg. at work, home, on a train, in the car)	(eg. No-one, wife)	1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do	1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful	1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored	1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely
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WHAT WAS YOUR MAIN ACTIVITY?	WHAT ELSE WERE YOU DOING AT THE SAME TIME? (eg. childminding, watching TV, eating, drinking, smoking)	WHERE WERE YOU? (eg. at work, home, on a train, in the car).	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME? (eg. No-one, wife)	WHY DID YOU DO THIS ACTIVITY? 1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do	HOW MEANINGFUL IS THE ACTIVITY? 1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful	HOW BORED DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored	HOW LONELY DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely
Please record all activities even if they only lasted a few minutes							
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**PLEASE CHECK THAT YOU HAVE FILLED IN ALL OF THE COLUMNS IN
DETAIL FOR DAY 1.**

After completing the diary for Day 1, please answer the following questions:

1.

Do you usually work in a paid job on this day?

Yes

☐

No

☐

2.

What type of day was today?

A usual day

☐

It was a holiday (e.g. public holiday,
annual leave, flex/RDO, shift/award day off)

☐

I was sick or injured

☐

I took time off from normal activities:

to do extra paid/unpaid work

☐

to arrange personal/family matters

☐

to look after a sick/injured person

☐

for a special leisure/educational/religious/
community/family activity (e.g. sports
event, course, conference, festival,
wedding, etc.)

☐

Cared for children for school holiday/
pupil free day, due to illness

☐

Other (please specify below)

☐

.....

3.

How many drinks of alcohol did you have today?

Please state the number, the amount and the type of alcohol you drank. (e.g. 4 stubbies of VB beer; 2 six ounce glasses of red wine).

.....

.....

4.

How many cigarettes/cigars did you smoke today?

.....

5.

What brand of cigarettes do you smoke and what strength are they in milligrams? (e.g. Peter Jackson 8 mgs).

.....

WHAT WAS YOUR MAIN ACTIVITY?	WHAT ELSE WERE YOU DOING AT THE SAME TIME?	WHERE WERE YOU?	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME?	WHY DID YOU DO THIS ACTIVITY?	HOW MEANINGFUL IS THE ACTIVITY?	HOW BORED DO YOU FEEL	HOW LONELY DO YOU FEEL
Please record all activities even if they only lasted a few minutes	(eg. childminding, watching TV, eating, drinking, smoking)	(eg. at work, home, on a train, in the car)	(eg. No-one, wife)	1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do	1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful	1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored	1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely
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WHAT WAS YOUR MAIN ACTIVITY?	WHAT ELSE WERE YOU DOING AT THE SAME TIME? (eg. childminding, watching TV, eating, drinking, smoking)	WHERE WERE YOU? (eg. at work, home, on a train, in the car).	WHO WAS WITH YOU AT HOME OR WITH YOU AWAY FROM HOME? (eg. No-one, wife)	WHY DID YOU DO THIS ACTIVITY? 1 = I wanted to, more than anything else 2 = I wanted to, but I wished I was doing something else 3 = I had to 4 = I had nothing else to do	HOW MEANINGFUL IS THE ACTIVITY? 1 = Not at all 2 = A little bit 3 = Fairly meaningful 4 = Very meaningful	HOW BORED DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly bored 4 = Very bored	HOW LONELY DO YOU FEEL 1 = Not at all 2 = A little bit 3 = Fairly lonely 4 = Very lonely
Please record all activities even if they only lasted a few minutes							
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PLEASE CHECK THAT YOU HAVE FILLED IN ALL OF THE COLUMNS IN
DETAIL FOR DAY 2.

After completing the diary for Day 2, please answer the following questions:

1.

Do you usually work in a paid job on this day?

Yes

☐

No

☐
2.

What type of day was today?

A usual day

☐

It was a holiday (e.g. public holiday,
annual leave, flex/RDO, shift/award day off)

☐

I was sick or injured

☐

I took time off from normal activities:

to do extra paid/unpaid work

☐

to arrange personal/family matters

☐

to look after a sick/injured person

☐

for a special leisure/educational/religious/
community/family activity (e.g. sports
event, course, conference, festival,
wedding, etc.)

☐

Cared for children for school holiday/
pupil free day, due to illness

☐

Other (please specify below)

☐

.....
3.

How many drinks of alcohol did you have today?

Please state the number, the amount and the type of alcohol you drank. (e.g. 4 stubbies of VB beer; 2 six ounce glasse
of red wine).

.....

.....
4.

How many cigarettes/cigars did you smoke today?

.....
5.

What brand of cigarettes do you smoke and what strength are they in milligrams? (e.g. Peter Jackson 8 mgs).

.....

Please provide comments

- On any of the information you have supplied in this diary;
- On anything which caused you problems;

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Thank you very much for participating in this research.

APPENDIX B

PERMISSION FROM AUSTRALIAN BUREAU OF STATISTICS



Leonie Bloomfield
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MCMC VIC 8001

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Dear Ms Bloomfield

Thank you for your request for permission to use the ABS Time Use Diary in your PhD research.

The ABS wishes to see its statistics widely available and widely used and as such we are pleased to be able to grant permission as it contributes to the ABS mission of assisting and encouraging informed decision making, research and discussion.

While it is ABS policy to charge a licence fee or royalties for the right to copy and redistribute ABS data, in those cases where the amount of data involved is small and/or the distribution limited, the ABS may licence that use of data without charge.

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and

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Should you wish to significantly change the data to be used or the extent of distribution of this data, or if you have any queries, please do not hesitate to contact me by telephone on (02) 6252 6629, by facsimile on (02) 6252 6062 or by e-mail at peta.wilcox@abs.gov.au

Yours sincerely

Peta Wilcox
Client Manager
Secondary Distribution
29 October 1998

APPENDIX C

DETAILED TIME-USE ACTIVITY CODES

NECESSARY TIME

1. Personal care activities

a) Sleeping

This code was used where participants indicated that they had gone to bed, were getting ready for bed, were asleep or were napping. Similarly, when participants reported 'Woke up' or 'Lying in bed' subsequent to a sleep period and no secondary activity was reported, that activity was coded in this category. Conversely, where a participant reported 'Lying in bed' and a secondary activity was reported, such as 'Watching TV', the main activity was coded as Passive Leisure – Resting and the secondary activity was coded as Passive Leisure – Watching TV.

b) Personal hygiene

This code included activities such as washing, showering, bathing, dressing, undressing, shaving, using the toilet, using the bathroom, brushing teeth, hair, getting ready for work or for going out.

c) Health care

This category included activities such as being in bed sick, taking medications, vomiting, feeling sick, or experiencing pain when this was an entry for the time slot, health treatments and classes.

d) Eating and drinking

This code included activities such as eating a meal, including eating lunch during a work or school break, having morning or afternoon tea, or 'smoko' at work where eating was an entry for that time slot, and drinking a non-alcoholic beverage. Eating a meal may include a beer or glass of wine with the meal. Eating at a restaurant was also included in this category.

e) Intimate activities

Where detailed by the participant, all levels of intimate relating were coded in this category. Such activities included kissing, cuddling, masturbation and sexual intercourse.

f) Associated communication

This code was used where a form of communication (written, in person or telephone) was about personal care.

g) Associated travel

Any travel associated with personal care activities was included in this category. This included travel to and from a restaurant or take-away food outlet.

h) Personal, private, or none of your business.

This code was used where the participant wrote 'personal', 'private' or 'none of your business'.

CONTRACTED TIME

1. Labour force activities

a) Main job.

All activities relating to the participant's main job were included in this category. This included any overtime (specified or unspecified) and work taken home. Whether a person worked from home was identifiable from the diary and therefore, the 'where were you?' column was coded as 'at home'. Whereas if the participant was employed in a job where travel was a work activity (courier, police officer, taxi driver), the physical location of the activity was coded as 'at work'.

b) Work for pay – other job.

If it was recognisable from the diary that the participant had more than one job, any activities related to that second job were coded in this category. For students who also worked part-time, any work-related activities were coded as main job, unless a second job was also specified.

c) Unpaid work.

This category included any activities relating to unpaid clerical or administrative work associated with the family business, or with helping others with work. This category did not include any work brought home from the principal place of paid work.

d) Breaks at work.

Where the participant reported a break at work and did not leave the premises, that activity was recorded in this category. It included 'smoko' at work where the participant did not record 'eating' as a secondary activity. It did not include lunch breaks at work. If the participant reported eating while working, it was not recorded as a break. Working was treated as the main activity and eating was the secondary activity.

e) Work related communication.

This category was used where a form of communication (written, in person or telephone) was about work, usually outside the workplace. Any work-related discussions or written communication that happened at work were coded as main job activities.

f) Work related travel.

Any time spent travelling to and from main job and any second job was included in this category. Also included was any waiting time for transport, waiting to go to work, packing books/bag/briefcase, or waiting for the workplace to open. Where participants reported walking or cycling to work, these activities were not coded in this category, but as sport, exercise, and outdoor activities in the active leisure category.

2. Education

a) Attendance at vocational/educational courses.

This code was used where the participant reported attending a lecture, tutorial, exam, class or seminar. When participants reported attending either one of the above courses and reported writing, listening, learning, or taking notes as a secondary activity, that secondary activity was not coded. Such behaviours formed part of the main activity.

b) Homework, study, and research.

This code was used where the participant reported doing study, homework, research, reading for school or university, researching assignments, attending the library, borrowing books from the library or photocopying for study purposes.

c) Breaks at educational institution.

Included time between classes where the participant stayed at the educational institution. The category did not include meal times or time spent studying or attending the library.

d) Job related training.

This code was used where the participant reported attendance at a professional conference, off-the-job training, work-experience, or retraining courses.

e) Related education communication.

This code was used where a form of communication (written, in person or telephone) was about education usually outside of the institution. Any discussion about education or study that occurred at the institution was not included.

f) Travel.

Any travel associated with going to or from an education institution was included in this category. Time spent waiting for transport, travelling to the library or travelling to another place of study was included. Any time spent getting ready for University or school, such as packing a bag or organising books was coded in this category.

COMMITTED TIME

1. Domestic activities

a) Food and drink preparation and clear up.

All activities relating to preparation of food for meals or snacks, non-alcoholic beverages, the service of food/drinks, the clearing of tables and the washing, drying and putting away of dishes were included in this category.

b) Laundry, ironing, clothes care.

This code included all activities relating to washing clothes, hanging them on the line and ironing. Also included folding clothes, putting clothes away or tidying up laundry.

c) Other housework.

Where participants reported general housework, house cleaning or housework or domestic duties not recognisable as food/drink preparation or laundry, ironing or clothes care, activities were coded in this category. Examples of activities included in this category were vacuuming, dusting, sweeping, polishing, making the bed, changing the sheets, cleaning windows, scrubbing the bathroom or cleaning the oven and cleaning out the shed/garage. Also included in this category were all activities associated with chopping and collecting firewood, lighting domestic fires and rubbish removal.

d) Gardening, grounds and animal care.

This category included all forms of gardening, including mowing the lawns, trimming, pruning, planting, watering, and tidying the garden, or pottering in the garden, and pool care. Animal care activities included grooming and feeding animals and health care of pets. It did not include taking animals for a walk. This was coded elsewhere as active leisure.

e) Home maintenance, improvement and car care.

This code included all activities associated with internal and external repairs to home structures or fixtures as well as structural improvements or additions. Also included in this category were all activities relating to home personal computer hardware and software installation and maintenance. Activities associated with the cleaning, maintenance and repair of cars and other forms of transport were also included. This category did not include activities associated with doing up cars or making furniture for a hobby.

f) Household management.

This category included any activities related to the payment of bills and associated paperwork, preparation of shopping lists and budgeting. Where the participant reported being in a shopping centre and paying bills, the activity was coded in this category.

g) Domestic associated communication.

This code was used where a form of communication (written, in person or telephone) was about domestic business. Some examples of this included arranging for a tradesperson or discussing building plans with an architect.

h) Domestic associated travel.

This category included any activities associated with domestic related travel. This may include travel to and from a shopping centre to pay bills, or travel to and from the tip.

5. Child Care

a) Physical care for children.

This category included all activities associated with feeding, bathing, and dressing children, changing nappies, putting children to sleep, and the administration of first aid to children.

b) Teaching, helping and reprimanding children.

All activities associated with showing or teaching children how to do things, helping them with homework, and reprimanding children, were included in this category.

c) Playing with, reading to and talking to children.

Any activities relating to playing with children were included in this category. The activities required some active involvement with children either at home or outside of the home. Going to the park or taking children to the movies would be included in this category where it could be ascertained that the activity itself was for the benefit of the child and not for the adult. Reading and talking to children were included in this category.

d) Passive minding.

Caring for children without active involvement, including monitoring children playing outside or sleeping were all activities included in this category. Usually these activities were reported as secondary activities.

e) Childcare associated communication.

This code was used where a form of communication (written, in person or telephone) was about childcare. This included communication to the children's school or childcare centre.

f) Childcare associated travel.

This code included any travel associated with childcare. It included any travelling associated with taking children to a playground or movies or any other venue relating to children's entertainment where it could be ascertained from the diary that the activity was for the benefit of the child. Also included in this category were activities associated with taking children to and picking them up from school, sports, friend's or relative's house or from other places. This category also included returning children to their mother where it could be ascertained from the diary that the parents had custody arrangements. It also included waiting time such as waiting for child to arrive on a train/tram/bus, and waiting for school to finish.

6. Purchasing Goods & Services

a) Purchasing goods

This code was used when the information given was about purchasing any consumer or durable goods. Where the participant reported 'shopping', that activity was recorded in this category. This code was also given where participants reported buying food, milk, petrol, gardening supplies, take-away food, hiring videos, buying cars, houses, electrical goods, furniture, clothes or shoes.

b) Purchasing services

This code included all activities associated with purchasing services, such as car repairs; personal care services, including hair cuts; domestic services, such as a plumber, electrician, or gardener; childcare services; and the purchase of other services including having photographs taken, and singing or music lessons. All banking related activities were coded in this category. Purchasing medical care services such as attending at a medical or dental clinic were not included in this category. These activities were coded elsewhere as health

care. Any activities associated with purchasing meals at a restaurant were also coded elsewhere, as eating.

c) Associated communication

Any communication related to purchasing goods and services in person, via the telephone or written was coded in this category. This included booking the services of a tradesperson or making an appointment for a service, and making inquiries about goods and services.

d) Associated travel.

All activities associated with travel related to the purchase of goods and services were included in this category. This included travel to and from a shopping centre, milk bar and take-away food outlet. All activities associated with waiting were also included in this category. This included waiting for shops to open or waiting for a tradesperson to arrive.

7. Voluntary Work, Community Participation and Care Activities

a) Helping/caring for others

All activities associated with helping and caring for adults were included in this category. Any activities related to caring for and helping children were coded elsewhere. Activities coded in this category included helping with washing, dressing and feeding of sick, elderly, frail or disabled adults. Often participants would report 'helping to cook dinner' or 'helping to wash up'. In these instances, the activities were not coded in this category, but elsewhere as domestic activities.

b) Helping/doing favours for others

This code was used where information was given in relation to doing favours for another person. This included doing chores for non-household family members, such as doing gardening for parents or taking parents shopping. It also included doing favours for neighbours, friends and other household members.

c) Voluntary/Community work

Where it was clearly indicated from the diary that the participant had been engaged in unpaid voluntary work, those activities were coded in this category. Specific examples included attending at school fetes, coaching others at sporting clubs, or engaging in any other activities at coaching clinics or clubs.

d) Religious activities

Any activities associated with attending church, engaged in prayer or reading the bible were included in this category. Also included in this category was attendance at a funeral, christening, confirmation or other religious ceremonies, but not weddings. Although weddings can be religious, they were coded elsewhere as a social activity.

e) Civic responsibilities and ceremonies

This code was used where the participant reported jury duty, court appearances or attendance at a police station. It also included any tests associated with driving and registration.

f) Associated communication

Any communication, in person, via the telephone or in writing, relating to helping and caring for others or voluntary work was included in this category.

g) Associated travel

This code was used when the information given was related to travel associated with helping or caring for other adults or for voluntary work. Specific examples included driving to the tip following gardening for parents/neighbours, driving others to a shopping centre, and picking up wife/partner from work.

FREE TIME

1. Social Life and Entertainment

a) Socialising.

This code was used for all activities related to meeting other people at the participants' homes, other people's homes or in other places, such as a hotel. It also included entertaining friends or extended family members at home. Where participants reported 'talking with friends' or 'meeting with friends', those activities were coded in this category. Where a participant reported talking to his wife and children at home, this was not coded in this category. These activities were coded elsewhere as passive leisure. Where participants reported meeting friends at a restaurant, this was not recorded in this category, but elsewhere as eating/drinking.

b) Entertainment and Culture

This code was used where the information given was about visiting entertainment venues such as any gambling arena, cinema, theatre, concerts, comedy shows, festivals and amusement parks; and cultural places such as the zoo, museum or places of scientific or historical interest.

c) Attending sporting event

All activities associated with watching sporting events were included in this category. This included any professional or para professional sporting event as well as any social games. Watching training was also included in this category.

d) Talking to friends or family

All general conversation was included in this category. This typically included conversations between extended family members, friends, work colleagues and fellow students in person and over the telephone. Generally this code was used for secondary activities. For example, where participants reported talking to friends or making phone calls, the main activity was 'socialising' and the secondary activity was 'talking to friends/family' or if the participant reported talking to his girlfriend in the car, the main activity was coded as 'travel' in its

respective category and the secondary activity was coded as 'talking to friends/family'. All secondary activities reported as 'talking to workmates' or 'making telephone calls' in the car were coded in this category. Where a participant reported making telephone calls from work, unless otherwise specified, it was assumed that those conversations were related to main work activities and were therefore not coded in this category. Where the participant reported talking to family at home, or arriving home and talking to family, these activities were not coded in this category. They were coded elsewhere as a main activity of passive leisure: talking to wife/family. Where the participant specifically indicated that he was talking to a child or children, this activity was not coded in this category. It was included in the category Child care – playing with/teaching/talking to children.

e) Associated communication

Any communication, in person, via the telephone or in writing, relating to social life and entertainment was included in this category. An example would include writing invitations or telephone conversations where it was clearly indicated by the participant that the conversation was related to social participation activities.

f) Associated travel

Any travel associated with social participation and entertainment was included in this category. Activities included driving to and from the cinema, friends' houses, hotel or sporting event. This category also included hiring taxis or other modes of public transport to and from social activities. It did not include walking to a hotel or walking to a friend's house. These types of travel activities were coded elsewhere as active leisure.

2. Active Leisure

a) Sport, exercise and outdoor activities

Where the participant reported participating in any sport or exercise or any outdoor activity, those episodes were coded in this category. This category also included any practice or training. Specific examples of sporting activities included golf, football, tennis, and netball, whether done within an organised club or as a social activity. Any other type of exercise was also coded in this category including going for a walk, walking to work, school, or to a

shopping centre, taking the dog(s) for a walk, riding a bicycle, running, swimming, gym and weight training. Specific examples of outdoor activities included camping, picnicking, fishing, going to the park and walking around the garden.

b) Games

Where the participant reported engaging in any card, paper, or board game, those activities were recorded in this category. It did not include playing computer games. These activities were coded elsewhere as passive leisure. Games such as billiards or pool were not included in this category unless the games were played in the participant's home. Participants typically reported playing pool with friends at a hotel. Therefore, those games were coded in the category of Socialising.

c) Hobbies, arts, crafts, drama

This category included any activity where it could be identified from the diary that it was related to the participant's hobby. Examples included doing up cars or bikes, model making, collectibles, and making furniture. Arts and crafts included the composition of art, literature, or music. Any activity related to playing a musical instrument, singing, dancing or participating before any audience, including practicing, was included in this category.

d) Holiday travel, driving for pleasure

This category included any form of travel related to a holiday. It included driving to and from any point of departure, such as an airport, train or bus terminal. This category also included any transport to and from a holiday destination, including travel to and from an extended family members' home at a rural, beach or non-metropolitan location. Driving for pleasure included travelling in a car or on a motorcycle where it could be ascertained from the activity description that the travel was specifically related to travel for pleasure.

e) Associated communication

Any communication in person, by telephone or written related to active leisure was included in this category.

f) Associated travel

Any travel associated with active leisure (excluding travel for holiday or driving for pleasure) was coded in this category. For example, any time spent driving to and from participation in a sporting event, the gym, or to a park for a picnic was included in this category.

3. Passive Leisure

a) Doing nothing

This code was used to describe main activities only. Where the participant specifically reported 'doing nothing' in any activity episode, that time was accounted for in this category. Invariably, participants reported 'nothing' as a secondary activity. As this type of response merely indicated that the participant was performing a main activity only at that particular time, responses of 'nothing' for secondary activities were not coded in this category. In those instances, the data were coded as missing.

b) Reading

Where participants reported reading the newspaper, a novel, or a magazine, at home, work, or at University where no other information was given about the nature of the reading material, that activity was recorded in this category. Reading books for homework or study purposes was not recorded in this category, but elsewhere in the Education category. Reading the Bible was also coded elsewhere in Religious Activities. Where participants reported reading to children, that activity was not coded in this category, but in the Childcare category. In many cases, participants reported 'reading' as a secondary activity, particularly during meal breaks at work or at an educational institution. It was difficult to determine whether the reading was work or study related. Where participants reported 'reading', but no further information could be ascertained from the diary about the nature of the reading, it was assumed to be reading for leisure, and was therefore coded in this category. Where it could be ascertained that it was work or study related, the activity was coded in the Labour force – Main job or Education – Homework, study categories respectively.

c) Watching TV, computer games

Where participants reported 'Watching TV', 'TV on' or 'Listening to the TV', that activity was coded in this category. Watching videos or movies at home or at another person's home was also included in this category. This code was also used where participants reported playing computer games, Playstation, Sega, or any other computer cartridge games that are connected to the TV, checking e-mails at home (but not at work), accessing/surfing the internet and 'computing' where no other information was given about what was being done on the computer. Where participants reported using the computer for work or study purposes, either at home or at work/educational institution, those activities were not included in this category, but elsewhere under Labour Force and Education activity codes. If participants indicated that they had installed a computer or fixed a computer problem at home, this activity was not coded in this category. It was listed in the Domestic – Home maintenance category.

d) Listening to radio, records, CD.

This code was used when the information given was related to the participant listening to tapes, CD's, records, or the radio, whether at home, at another person's place, at work, in the car, outdoors, or any other place.

e) Relaxing, thinking, resting.

Where participants recorded resting, relaxing, sitting, or staying in bed, those activities were coded in this category.

f) Memorabilia.

This category included any activity such as looking at photographs or other objects that brought back memories or elicited an emotional response.

g) Driving for pastime.

Where participants reported that they 'went for a drive' and there was no further information relating to the purpose of the travel, that activity was coded in this category.

h) Smoking cigarettes.

Where participants reported smoking as a main or secondary activity episode, that activity was recorded in this category.

i) Drinking alcohol.

Where participants reported drinking alcohol as a main or secondary activity, that was accounted for in this category. Where participants reported 'drinking' with no further information, and it could not be ascertained from other aspects of the diary that the drinking was related to alcohol consumption, that activity was coded elsewhere as Personal Care Activities – Eating and Drinking.

j) Talking to wife/partner and family

This category included main activities only. Where participants reported talking to wife, or talking to girlfriend/partner, or family as a main activity, that was coded in this category. In many cases, participants reported 'arrived home' as the main activity and 'talking' as the secondary activity. Where it could be ascertained that the participant was in the company of his wife/partner or family, the activity was coded as a main activity in this category.

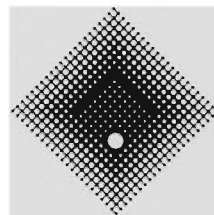
APPENDIX D
COPY OF CONSENT FORM

VICTORIA UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF PSYCHOLOGY
STATEMENT OF INFORMED CONSENT*
FOR "HEALTH EFFECTS OF TIME USE" STUDY

VICTORIA
UNIVERSITY

OF
TECHNOLOGY

RESEARCHER: LEONIE BLOOMFIELD 9365 2811
SUPERVISOR: DR. GERARD KENNEDY 9365 2481



I, consent to taking part in the above named study. I understand my rights as a participant in this research. The objectives and procedures of the study have been explained to me and I understand them. I have been advised that the results of the research may be published but that my personal details will remain confidential. I voluntarily consent to participate but I understand that I can withdraw from the study at any time.

If you have any comments to make on this research project, please contact either the researcher, supervisor, or the Secretary, Human Ethics Committee, Victoria University of Technology, St Albans, 3021, on (03) 9365 2111.

Name of participant:

Signature: Date:

Name of researcher: Leonie Bloomfield

Signature: Date: 15/2/99

* Two copies required - one retained by participant, second given to researcher.